MENTHOL FLAVORED AND FLAVOR CAPSULE CIGARETTES: A MIXED METHODS STUDY EXAMINING PACKAGING AND CONSUMER PERCEPTIONS IN THE PHILIPPINES

by
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ABSTRACT

Background

The Philippines has one of the world's largest menthol cigarette market shares and the market for flavor capsule cigarettes, most offered in menthol flavor, is growing. Menthol flavored cigarettes mask the harshness of smoking and are associated with smoking initiation and decreased likelihood of quitting smoking and staying quit.

Methods

This research utilized a mixed methods multiphase design consisting of three strands to examine marketing and consumer perceptions of flavored cigarettes among young adults in the Philippines. In the first strand, a quantitative content analysis of cigarette packs purchased in the Philippines was used to describe the similarities and differences between structural and graphic elements of packaging across packs grouped by flavor and flavor capsule inclusion. In the second strand, focus group discussions were conducted with young adults in Manila to explore their interpretations of cigarette flavor related descriptors and imagery on cigarette packaging and explore perceptions of product harm and appeal. In the third strand, an experimental survey was conducted to assess young adult consumer perceptions of menthol and flavor capsule cigarettes in terms of relative harm, appeal, and intention to try.

Results

This dissertation demonstrates how cigarettes, grouped by flavor and capsule inclusion, are marketed differently via packaging in the Philippines. Young adult Filipino consumers interpret variations of the descriptors, "ice" and "fresh", on packaging as indicative of a cool sensation

and menthol flavor. Capsule imagery on packaging is commonly understood to communicate the ability to change the flavor of the cigarette. Young adult Filipino consumers distinguish between blue menthol and green menthol, perceiving the former as less harmful and the latter as more. Flavored cigarettes are appealing to young adult Filipinos. Concept flavors, such as "purple breeze" are particularly appealing. More young adult Filipino consumers report an intention to try flavored capsule cigarettes than non-flavored and non-capsule cigarettes.

Discussion

This dissertation provides evidence regarding the marketing and consumer perceptions of flavored and flavor capsule cigarettes in a lower middle income country context. Results can inform tobacco control regulations in the Philippines and other jurisdictions considering packaging and labeling regulations and provisions that limit flavors in tobacco.

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CHAPTER 1 – INTRODUCTION AND LITERATURE REVIEW

BACKGROUND

The Tobacco Epidemic

Tobacco use is the leading cause of preventable death and kills more than seven million people per year globally.[1] 80% of tobacco-related deaths occur in low- and middle-income countries.[2] While smoking rates in high-income countries have declined in recent decades, rates have increased in many low- and middle-income countries.[2] Smoking can cause a range of diseases, including cardiovascular disease, respiratory disease, lung and other cancers, diabetes, eye disease, and pregnancy complications.[3]

Flavored Tobacco

Tobacco products come in a variety of flavors, including menthol, mint, vanilla, orange, chocolate, coffee, and candy flavors. Flavors in tobacco products have long been used by the tobacco industry to increase market share and appeal to a young audience.[4–9] Flavoring in cigarettes masks the harshness of the smoke and makes it easier to smoke.[7] Flavored tobacco is perceived as less harmful than non-flavored tobacco, particularly among younger age groups.[10–12] Flavored cigarettes are associated with smoking initiation and are used by youth and young adults at higher rates than other age categories.[4,6,13–17]

Menthol Flavored Tobacco

Menthol flavored tobacco products have the highest market share of all flavors and pose a unique threat to public health. Menthol flavoring masks the harshness of smoking, is smoked disproportionately by vulnerable populations, is associated with increased smoking initiation and likelihood of addiction, and is associated with decreased likelihood of quitting and staying quit.

Masking the harshness of smoking

Tobacco industry documents reveal that the industry uses menthol in order to mask the harshness of smoking and make it easier for individuals to inhale and smoke.[7,18–21] Reviews of the industry documents also find industry discourse around the cooling sensation that menthol provides and how this is linked to specific sensory effects.[7,18–21] Independent research confirms that menthol cigarettes produce anesthetic and sensory characteristics that mask the harshness of smoking.[22]

Demographic patterns of use

Reflecting the tobacco industry's targeted marketing, menthol cigarettes are smoked at higher rates among specific populations. Utilizing data from several surveys, a 2011 study conducted by the National Cancer Institute concluded that in the US, menthol cigarettes are disproportionately smoked by youth, African Americans, adult females, residents of the Northeast region, and individuals with a family income lower than $50,000.[23] Two recent studies utilized data from the Tobacco Use Supplement of the Current Population Survey and both found that menthol cigarettes are smoked more often by females, youth, ethnic minority groups, and individuals whose highest level of education is high school.[24,25] Similarly, a 2001 study using data from the National Survey on Drug Use and Health found the highest menthol cigarette use among females, African Americans, and youth.[26] Another study utilizing the same data source over several years, found an association between menthol cigarette use and being younger, female and of non-Caucasian race/ethnicity.[27] This study also found that while rates of smoking among youth non-menthol smokers decreased from 2004-2010, rates among menthol smokers remained constant; among adult smokers, non-menthol smoking rates dropped and menthol

smoking rates increased.[27] A study examining smoking related factors and race/ethnicity differences, reported that 90% of African American smokers vs. 25% of Caucasian smokers smoke menthol cigarettes.[28]

Other studies have looked at differences in cigarette brand preference. Using data from the National Health Interview Survey and Cancer Control Supplement, researchers found that menthol cigarettes were more likely to be chosen by Black and female smokers, after adjusting for age, income, and education.[29] In a study on youth smoking that utilized data from the National Youth Tobacco Survey, the majority of Asian American and African American smokers reported that their usual cigarette brand is a menthol brand.[30]

Most research on the demographic patterns of menthol tobacco use has been conducted in the United States, but the few studies conducted outside of the country support that menthol tobacco products are more often used by youth and young adults, women, and racial and ethnic minorities than other populations. Research in Australia, Canada, New Zealand, and Poland have found high rates of menthol cigarette use and preference among youth.[31–34] In Australia, Canada, the United Kingdom, New Zealand, Japan and Poland, women are more likely to smoke menthol cigarettes than men.[31,32,34–36] One survey in Canada found that Black and Hispanic high school aged youth smoke menthol cigarettes at high rates.[37] In New Zealand, high school aged Maori, Asian, and Pacific Islander minorities smoke menthol cigarettes at high rates.[32]

Initiation and addiction

Menthol cigarettes are associated with youth smoking initiation and increase the likelihood of addiction. The 2014 National Youth Tobacco Survey reported that among youth who currently smoke in the United States, 53.6% of them smoke menthol cigarettes.[38] A 2006 study examined the relationship between menthol cigarette use and nicotine dependence among

youth and found that youth who smoked menthol cigarettes were more dependent on nicotine than non-menthol smokers.[16] Similarly, a 2010 study found that youth who smoked menthol cigarettes demonstrated a reduced time to needing a cigarette when compared to youth smoking non-menthol cigarettes.[15] In a cohort study that utilized data from the American Legacy Longitudinal Tobacco Use Reduction study, results showed that initiating smoking with menthol cigarettes was associated with progression to regular smoking.[17]

Cessation

Menthol smokers are less likely to succeed in quitting smoking than non-menthol smokers. In one cohort study of quit attempts, researchers found that menthol smokers were less likely to stay quit than non-menthol smokers.[39] Using data from the Tobacco Use Supplement of the Current Population Survey, another study found that although menthol smokers were actually more likely to attempt to quit smoking, they were less likely than non-menthol smokers to stay quit.[40] There is also research that finds disparities in terms of smokers trying to quit smoking - two studies using data from the National Health Interview Survey Cancer Control Supplement found that there were significant differences in smoking cessation rates for African American menthol smokers and non-menthol smokers, however this finding was not true for Whites.[41,42]

Innovations in Flavored Tobacco: Flavor Capsule Cigarettes

Innovation is recognized by the tobacco industry as a key element to market growth and maintaining positive consumer perceptions of brands.[43] Euromonitor, a global research company that provides insights to industries such as the tobacco industry, states that innovation in tobacco products serves three purposes: 1) justifies a higher price, 2) provides a different experience to the customer, and 3) suggests less risk.[44]

Flavor capsules are considered a "filter innovation".[43] Capsules with water in cigarettes date back to 1965 with the creation of the Waterford cigarette by the American Tobacco Company.[45] This cigarette was inspired by the waterpipe and the filter contained a breakable water capsule.[45] Japan Tobacco filed a patent for a similar cigarette, the Rivage Cigarette, in 1987.[45] While they did not become mainstream until many years later, tobacco industry documents show that the application of this new capsule technology was applied to create crushable menthol capsules shortly after the introduction of the Waterford and Rivage cigarettes.[45] However, cigarettes with flavored capsules did not become mainstream until they were re-introduced in the Japanese market in 2007 – an innovation that was intended to and is succeeding in fueling market growth.[43,46] Flavor capsules are typically comprised of a shell made from gelatin and filled with a liquid that contains a flavor agent that are inserted into the cigarette filter and can be crushed to flavor the cigarette smoke.[43,47] Most capsules are menthol-flavored (fruit flavored offerings also exist), but are trademarked with various non-characterizing flavor names such as Marlboro's "Ice Ball".[43] Generally, flavor capsule cigarettes come in two forms - a menthol-flavored cigarette with an added menthol capsule (often labeled with descriptors such as "boost") or non-flavored cigarettes that contain a menthol capsule and only become flavored when the capsule is crushed (often labeled with descriptors such as "switch" or "convertibles").[47]

In recent years, the sale of cigarettes with flavor capsules has skyrocketed, experiencing triple digit growth since their launch, and they are now available in most markets.[48,49] Flavor capsule cigarettes are the fast growing segment in the combustible cigarette market.[48] They are available in 67 countries and in 52 of these countries, market share has increased between 2014 and 2017.[48] Flavor capsule cigarettes currently have the highest market share in Latin America (Chile, Peru, Guatemala, Argentina, Mexico).[50] Flavor capsule cigarettes have been released in

markets with comprehensive tobacco restrictions as a way to fuel growth in the market and have been successful in doing so. In Australia, several flavor capsule cigarette varieties were observed on the market following implementation of plain tobacco packaging in 2012.[51] The sale of flavor capsule cigarettes in New Zealand, a country with comprehensive tobacco control regulations, has grown rapidly since 2012.[52]

The sale of capsule cigarettes has helped increase the menthol market share in many countries.[43] Every multinational company has flavor capsule sub-brands on the market and most international brand variants now have several sub-brand flavor capsule variants (FCVs).[43] For example, as of 2012, Marlboro had introduced Marlboro Blue Ice, Marlboro Ice Boost, Marlboro Ice Blast, and Marlboro Ice Xpress.[43] Market research predicts that this innovation will continue to grow in other markets.[53] Monitoring of tobacco packaging comparing the products purchased in six countries (Brazil, Indonesia, the Philippines, Russia, Thailand, Vietnam) from 2013 to 2015/2016 found that in 2013, 18 FCVs were on the market compared to 34 FCVs in 2015/2016, the biggest increase in FCVs on the market being in the Philippines.[54] Recently, flavor capsule offerings have also come on the market in filters for roll-your-own tobacco and in the tobacco sticks used with heated tobacco products.[48,55]

One study has examined the physical properties of the capsules in cigarettes.[56] Researchers examined all 31 different capsule offerings in Korea, including the menthol content of all cigarettes, and found that the menthol content of the capsule cigarettes are higher or similar to the content previously reported for non-capsule menthol cigarettes.[56] Authors also found that in flavor capsule cigarettes labeled in fruit flavors, such as apple and orange, and other flavors such as wine and cocktail, there was no difference in menthol content.[56]

An unpublished study by Philip Morris on the menthol market in 2008 and 2009 found that the menthol content in the cigarettes and tobacco smoke for the sampled flavor capsule cigarettes was significantly higher when the capsule was crushed than for menthol non-capsule cigarettes.[47] One independent study has looked at the concentration of various substances in tobacco smoke, comparing flavor capsule cigarettes when not crushed to when they are crushed.[57] It found an increased concentration of volatile organic compounds when the capsule was crushed.[57] An industry-funded study found that there is no meaningful difference in the particulate smoke constituents released when comparing cigarettes with the capsule crushed versus uncrushed.[58] More research is needed but early results are concerning as they show that crushing of capsules may increase the toxicity of cigarettes.

Patents for flavor capsule cigarettes reveal key elements of the product design that may have negative public health consequences. Capsules make the cigarette more flavorful as the filter does not absorb as much of the flavor as when the flavor is added directly to the tobacco.[47] Patents also reveal that the product design is meant to change the cigarette smoke and stub so that the odor of the cigarette is not as pungent, as well as create a moistening and cooling effect.[47] These design features may make it easier for smokers to inhale and increase the attractiveness of the product beyond that of the standard menthol cigarette. Indeed, early research on flavor capsule cigarettes finds that they appeal to youth and young adults and are associated with misperceptions of relative harm.[10,59–65]

Current Regulations on Flavored Cigarettes

Several jurisdictions have implemented comprehensive bans on flavors in cigarettes, including Ethiopia, Uganda, Senegal, and Canada.[66] Bans on flavors in the European Union,

Moldova, and Canada will go into effect in May 2020.[67] In the United States, all flavoring is banned in cigarettes, but menthol flavoring is exempted.[66] The World Health Organization recommends banning menthol in all tobacco products.[68] The Canadian province, Nova Scotia, became the first jurisdiction to implement a ban on menthol cigarettes in May 2015 and after that, several Canadian provinces and eventually the nation (as seen above) implemented a ban on menthol cigarettes.[67] Some jurisdictions in the United States, such as San Francisco have passed city-wide menthol cigarette bans and in 2019, the state of Massachusetts passed a ban on menthol tobacco which will go into effect in June 2020.[69,70] Brazil has passed a ban on flavored cigarettes, including menthol, but this has not been implemented yet due to pending litigation.[67] Select capsule cigarette products have also been banned in the US (Camel Crush Bold) and Germany.[67]

Research conducted on implementation of the menthol cigarette bans in Alberta and Nova Scotia, Canada in 2015 found that although the tobacco industry is no longer selling cigarettes explicitly labeled as menthol, Philip Morris International has repackaged their products to suggest menthol-like flavoring using color and substitute descriptors, potentially making it easier for consumers to identify their usual cigarette brand.[71] These tactics were also described in the time leading up to the menthol ban in Ontario, Canada, as well as following implementation.[72,73] In addition, menthol flavor capsule cigarettes were introduced following the announcement of a ban on menthol.[73] Following the implementation of the ban on January 1, 2017 in Ontario, and the nationwide ban in October 2017, a cigarette with a water capsule (Camel North Aqua Filter) was introduced in Canada.[48]

RESEARCH FOUNDATIONS

The Philippines

Republic of the Philippines

The Philippines is a country comprised of more than 7,000 islands located in the Western Pacific and shares maritime borders with China, Indonesia, Japan, Malaysia, Taiwan, Vietnam and Palau. The Philippines has a population of over 106 million people.[74] The Philippines is classified as a lower middle income country by the World Bank.[74] Life expectancy at birth is 71 years.[74] Major exports of the Philippines include integrated circuits, computers, semiconductor devices, office machine parts, and insulated wire.[75] Top export destinations are China, Japan, the United States, Hong Kong, and Singapore.[75]

During the 16th century, the Philippines became a Spanish colony and after 1898, was governed by the United States.[75] The country became independent in 1946.[75] The Philippines is home to several ethnic groups, the majority of which are Tagalog (28.1%).[75] The official languages of the country are English and Filipino, of which there are eight major dialects, including Tagalog.[75] 82.9% of Filipinos are Roman Catholic.[75] 44% of the population lives in urban areas.[74] Major urban cities include Manila (12.9 million), Davao (1.6 million), and Cebu (951,000).[75] The literacy rate for adults 15 years and older is 97%.[74]

Rodrigo Duterte became president of the Philippines in 2016. He has promised economic growth and poverty reduction under his administration and believes that illegal drugs, crime and corruption are barriers to economic development.[75] While this stance has made him popular among many Filipinos, he has been a contentious figure locally and globally due to many public inflammatory statements and the “war on drugs”. Human Rights Watch has publicly called the

"war on drugs" a human rights violation and called for actions to stop current tactics and implement a public health approach to drug use.[76]

Tobacco use

Asia has the highest number of tobacco users in the world, with 430 million smokers living in the Western Pacific region, and is a prime target of transnational tobacco companies.[77] In the Philippines, 22.7% of adults (age 15 years and above) smoke tobacco products- 40.3% of males and 5.1% of females.[78] Among youth (ages 13-15 years) 14.5% smoke tobacco products- 20.5% of males and 9.1% of females.[78] Tobacco kills over 103,000 Filipinos each year.[79] 98.7% of smokers report that they last purchased cigarettes in a store.[78] 92.7% of current smokers and 95.7% of non-smokers believe that smoking can cause serious illness.[78]

There is little research on smoking behaviors specific to Asian countries. However, one 2004 study found that for Filipino males, ages 15-29 years, older age, being out of school, and having lived away from parents increases the probability of smoking and planning to attend college is associated with lower prevalence of smoking.[80] Among females, ages 15-29 years, those living in Manila were more likely to smoke than those living elsewhere and those raised by two parents were less likely to smoke than those who were not.[80] Religiosity did not have an impact on smoking for males or females.[80] Another study utilizing 2009 Global Adult Tobacco Survey (GATS) data found that the following social determinants influence tobacco use in the Philippines: gender, age, education, income, and knowledge of effects of smoking.[81]

Flavored cigarettes

While exact market share estimates vary (between 22% and 60%), the Philippines is one of the countries with the largest market share of menthol cigarettes in the world.[27,50,82]

Euromonitor reports that the Philippines is one of the top five menthol markets and similar to other countries, even though world market share is going down, menthol penetration of the local market is increasing.[43] Monitoring of cigarettes on the market in the Philippines indicate that while only three FCVs owned by two brand companies (Philip Morris Fortune Tobacco Corp and Japan Tobacco International) were available on the market in 2013, 16 FCVs owned by four companies (Philip Morris Fortune Tobacco Corp, Japan Tobacco International, British American Tobacco, and KT&G) were on the market in 2016.[54] Of the 16 FCVs on the market in 2016, seven included menthol or mint capsules, three included menthol and "purple" flavored capsules (e.g. Winston Purple Mint, Marlboro Ruby Burst), three touted capsules that would provide a "fresh taste" and are likely menthol-flavored given what we know about brand variant names, and three included non-menthol flavors (e.g. lime, orange, and Ibiza sunset).[54] A 2016 Euromonitor report states that "mint-flavored capsules are becoming prominent in the Philippines", following the introduction of Chesterfield Mint in 2014 and Fortune Tribal Mint Splash in 2015 by Philip Morris Fortune Tobacco Corp.[53]

Tobacco control environment

The World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) was adopted in response to the global tobacco epidemic and was the first treaty to be negotiated by the World Health Organization.[83] The WHO FCTC contains several articles that are grouped into three categories: price and tax measures to reduce the demand for tobacco, non-price measures to reduce the demand for tobacco (such as protection from secondhand smoke exposure, regulation of tobacco product contents, packaging and labeling measures, education, and tobacco advertising, promotion, and sponsorship), and core supply reduction provisions (which addresses illicit trade, sale to minors, and economically viable alternative activities to

tobacco growing).[83] The Convention entered into force in 2005 and to date, there are 181 Parties to the FCTC.[84] MPOWER is a package of technical measures and resources that were developed by the WHO to help countries implement the measures of the FCTC.[85]

The Philippines became a party to the WHO Framework Convention on Tobacco Control in June 2005.[1] A summary of where the country lies in terms of MPOWER measures, in addition to the acronym meaning, can be found in Table 1.1.[1,85]

Table 1.1. Philippines Progress in Achieving MPOWER Measures

Monitor tobacco use and prevention policies	Recent, representative and periodic data is collected for both adults and youth
Protect people from tobacco smoke	Three to five public places completely smoke-free
Offer help to quit tobacco use	Nicotine replacement therapy and/or some cessation services (at least one of which is cost-covered) are offered
Warn about the dangers of tobacco	Packs display graphic health warnings that cover 50% of the principal display area; a national anti-tobacco campaign was conducted
Enforce bans on advertising, promotion, and sponsorship	There is a ban on tobacco ads on national TV, in radio and print media, as well as on internet advertising
Raise taxes on tobacco	71.3% of retail price of tobacco is tax

Tobacco industry documents unveil efforts by tobacco companies to target the Philippines due to political corruption and lack of political will to implement tobacco control policy.[86] In the late 1990s, the Philippines was deemed to have the strongest tobacco lobby in Asia and a $300 million manufacturing facility was built in the country in 2003 by Philip Morris International.[86] Tobacco industry tactics used in the Philippines include paying a prominent scientist to denounce ties between smoking and poor health effects, lying about nicotine and tar yields, spreading false information on the negative health effects of secondhand smoke, delaying implementation of health warnings on tobacco packaging, thwarting advertising restrictions,

targeting youth, and employing children to sell single cigarettes (commonly referred to as "jump boys").[86] The cigarette market in the Philippines was largely fueled by menthol cigarettes for decades and the tobacco industry documents show evidence of advertising that targeted women, youth, and young adults.[86]

While the tobacco industry retains a strong influence in the country, in 2009 the Department of Health (DOH) and Civil Service Commission (CSC) founded a 5.3 committee (in reference to Article 5.3 of the FCTC which addresses tobacco industry interference) made up of tobacco control advocates and other supporters committed to working against tobacco industry interference.[87] In recent years, the Philippines has successfully implemented stronger tobacco control regulations. In 2012, the country passed the "sin tax law"[66] which increased taxes on tobacco and alcohol, successfully resulting in a tobacco price increase.[88] In 2014, the Philippines passed regulations that mandate large graphic health warning labels on tobacco products[66] and these were implemented in 2016.[89] These policies have been credited with a dramatic decrease in smoking prevalence from 2009 to 2015, as found by the GATS survey. In 2009, adult smoking prevalence was 29.7% compared to 22.7% in 2015.[78,90]

The Philippines government continues to show support for tobacco control policy. In May 2017, Duterte signed an executive order for a nationwide smoking ban.[91] In June 2017, the DOH launched a nationwide quit line to help smokers with cessation efforts.[92] In January 2020, the excise tax on tobacco products was increased.[66] However, smoking rates are still high and more work in the area of tobacco control is needed. Perhaps the most egregious example of tobacco marketing in the Philippines in recent years has been Philip Morris' "Be Marlboro" campaign which has been found to target youth in the country.[93] In addition, the tobacco industry still fights strong tobacco control policies in court and is heavily involved in policy-making.[94]

73.4% of the retail volume of cigarettes is sold by Philip Morris Fortune Tobacco Corp, followed by Mighty Corp with 20.2% retail volume.[53] In July 2017, it was reported that Japan Tobacco International would control Mighty assets after paying USD $900 million.[95]

Marketing of Flavored Cigarettes

Industry targeting

The tobacco industry has historically targeted youth and minorities with menthol cigarette advertisements. In a study examining cigarette advertisements near high schools in California, results showed that there is increased menthol cigarette advertising near high schools with a greater proportion of Black students.[96] Two studies conducted in Boston, MA looked at advertisements of menthol cigarettes by community and found that menthol cigarette brands were disproportionately marketed in low income, urban communities.[97,98] A literature review of industry documents published in 2004 concluded that the industry has used similar tactics to target African Americans since the 1960s; menthol slogans and advertisements are still widespread.[99] One study examined RJ Reynolds' strategy for general targeting of African Americans using tobacco industry documents and review of advertisements and concluded that marketing of menthol cigarettes is prominent.[100] Another study looked at marketing of menthol cigarettes in urban and predominantly Black communities and found that the industry offers more discounts and uses more advertisements for menthol cigarettes than non-menthol cigarettes in neighborhoods where the majority of the population is Black.[101] Menthol cigarettes are often associated with fame, music and nightlife in these communities.[101] Studies looking at magazines from the 1980s and late 1990s/early 2000s found that magazines with a Black readership

displayed a greater proportion of advertisements for menthol cigarettes than those magazines with a White readership.[102,103]

While little research has been done on the demographics of those who use flavor capsule cigarettes regularly, the tobacco industry has stated that the target audience for flavor capsule cigarettes is adult smokers under 30 years.[46] And in one peer-reviewed study of smokers in Mexico, the US, and Australia, researchers found younger age was associated with preference for flavor capsule brands in all countries and in Mexico and the US, women were more likely to prefer flavor capsule brands than men.[10] A nationally representative survey in the United States conducted from 2013 – 2014 found that among young adults, ages 18 – 24, 9.4% of smokers smoked a flavor capsule cigarette as their usual cigarette, a higher percentage of smokers than those in older age categories.[61] This research also found that a higher percentage of Hispanic smokers in the US smoked flavor capsule cigarettes than non-Hispanic Whites or non-Hispanic Blacks.[61] An online survey conducted in the United Kingdom also found that younger smokers are more likely to smoke flavor capsule cigarettes than older smokers.[63] Research in Chile, the country with the highest market share for flavor capsule cigarettes in the world, found that each year in a smoker's age increases the likelihood of preferring flavor capsule cigarettes by an average of 0.8 to 0.9 percentage points.[64] This research also found that for female smokers, the likelihood of preferring flavor capsule cigarettes increases between 13.4 and 13.5 percentage points.[64]

Marketing channels and messages

Point-of-sale (POS) advertising to market menthol cigarettes in the US is common. A recent study examined menthol cigarette advertising outside point-of-sale in the US and reported that direct mailings aimed at building brand loyalty is the most popular channel outside of

POS.[104] Print publications were only used by two brands to market their menthol brands.[104] There is no research available on the marketing of menthol cigarettes in the Philippines specifically, but advertising of tobacco in the country is limited to POS.[66] Therefore, the tobacco industry relies heavily on POS advertising, including product display.[53]

In regards to messages used to market cigarettes, marketing of menthol cigarettes using health reassurance messages was common until the mid-1900s in the US. Following the 1950s, the tobacco industry shifted their message to focus on the "refreshing" taste of menthol cigarettes and making associations between menthol cigarettes and group identify, youthfulness, and fun.[105,106]

Little research has focused solely on the marketing of flavor capsule cigarettes (at point-of-sale or otherwise), however, market research reports and observations provide some insight. Early market research by tobacco companies on flavor capsule cigarettes found that consumers like the control they have over the flavor of the cigarette and getting to decide when they crush the capsule, as well as the sensations of feeling and hearing the capsule pop.[107] Therefore, advertising themes for flavor capsule cigarettes have been 1) an emphasis on freshness and 2) the option for users to customize their cigarette by having the choice to decide when and when to change the taste of the cigarette.[47] Slogans like "Click. Switch. Refresh." And "Squeeze, Click, Change!" have been used to promote flavor capsule cigarettes.[47] Many flavor capsule cigarette brands suggest menthol or mint flavoring through descriptors such as "fresh", "ice", "frost", "crisp", "cold" and "blast".[43] Technology is generally used as a selling point in innovation[43] and used to market flavor capsule cigarettes as well.[108] Described in more detail later, references to technology have been used in the design of flavor capsule cigarette packaging.[109] Flavor capsule advertising has been described as "colorful, dynamic, and innovative".[47]

Packaging

In marketing, the packaging usually refers to the container that comes into direct contact with the product. Some scholars argue that packaging is the most important way that a marketer communicates because it reaches all consumers in the specific category, is present at the time the purchase is being made, and consumers interact with the packaging as they look to it for information on the product.[110] In marketing, packaging became more salient in the late 1900s due to media fragmentation and the recognition that packaging may better suited than advertising to influence perceptions of the brand.[111] For cigarettes, packaging has also become more important over time as advertising becomes restricted via mediums such as television and radio.[112,113] In the Philippines, tobacco advertising is limited to point-of-sale.[66] Scholars also argue that in addition to packaging communicating meaning through mediated experiences, such as advertising, meaning is communicated via the lived experience and strengthens the relationship between consumer and brand.[114] The cigarette package has been described by marketers as a "badge product", meaning the product associates the user with the brand image.[113] Unlike some products where the packaging is discarded after opening it, cigarettes are usually kept in their package until they are all smoked and may be on display (such as out on a table) during the act of smoking.[113] It is estimated that pack-a-day smokers view their cigarette packaging up to 7,000 times a year.[115]

Package design is central to marketing and brand positioning. Tobacco packaging characteristics such as color, imagery, pack shape, and descriptors influence consumer perceptions of appeal and harm.[116–120] For example, tobacco industry documents reveal the strategies in which tobacco companies use color on cigarette packaging to manipulate consumer perceptions of the taste and strength of the product.[121] Cheskin, a leader in consumer psychology,

speaks to the concept of "sensation transference" which demonstrates how consumers unconsciously transfer their impressions or sensations derived from viewing packaging to the actual product, not distinguishing between the two.[121]

Despite the importance of packaging to a brand's overall marketing strategy, no research to date has quantified or described the differences in packaging being used between menthol and non-menthol cigarette packaging.[122] In a report submitted to the FDA, RJ Reynolds Tobacco Company discloses their use of "cool and fresh imagery" for menthol products, as well as green and blue coloring on packaging.[122] Technology-related imagery and descriptors that imply something can be "activated" or "switched on" in a cigarette have been observed on menthol cigarette and flavor capsule cigarette packs.[108] Similarly, researchers have observed cigarette packaging that evokes "digital culture" in order to appeal to younger audiences.[109] Kent Convertibles packaging displays a "power" switch that is often used on electronics and Marlboro packs have featured an "iceball" which is similar to the iPhone camera lens.[109]

Consumer Perceptions of Flavored Cigarettes

A review of the literature on consumer perceptions of menthol cigarettes and of tobacco industry documents suggested that menthol cigarettes may be viewed as less harmful among menthol smokers but overall, findings are inconsistent.[105,123] A study conducted in New Zealand revealed that the majority of respondents (81% of smokers and non-smokers) disagree with the statement that menthol cigarettes are less harmful than non-menthol cigarettes.[124] A similarly designed nationally representative survey in the United States found that almost half (45%) of respondents believed that menthol cigarettes are just as harmful as non-menthol cigarettes and 40% of respondents were uncertain whether menthol cigarettes were more or less harmful than

non-menthol cigarettes.[125] Less than 1% of respondents believed that menthol cigarettes were less harmful than non-menthol cigarettes.[125] The research cited on consumer perceptions related to harm so far, has focused on Western countries, however one study in the context of developing countries has examined smokers' beliefs regarding the harmfulness of products as they relate to light and menthol cigarettes.[126] This study was conducted in Malaysia and Thailand and consisted of face-to-face interviews with adult smokers.[126] Researchers found that in Malaysia, 16% of participants agreed that menthol cigarettes are less harmful than non-menthol cigarettes and in Thailand, 35% of participants agreed with this statement.[126]

Many studies on consumer perceptions also refer to the sensory characteristics of smoking menthol cigarettes as compared to non-menthol cigarettes. In the study previously referenced in New Zealand, more than half of smokers (56%) agree with the statement, "menthol cigarettes are smoother on your throat and chest than regular cigarettes".[124] Of the participants interviewed in Malaysia and Thailand, the belief that cigarettes are less harmful was related to the idea that menthol cigarettes provide a "smoother smoke".[126] One study specifically looking at the relationship between sensory perceptions and attitudes towards menthol cigarettes using tobacco industry documents found that menthol and non-menthol smokers experience a difference in sensory perceptions.[127] Menthol smokers smoke menthol cigarettes because they like the taste and they consider it a "weaker" cigarette.[127] Some smokers also switch from non-menthol to menthol cigarettes as a way to alleviate certain symptoms such as coughing, decrease the number of cigarettes they smoke, and as an alternative to quitting smoking.[127] Switching from non-menthol cigarettes to menthol cigarettes as an alternative to quitting was found across several studies.[105,128]

A few studies have been published on consumer perceptions of flavor capsule cigarettes. In one qualitative study conducted in Scotland in 2012, twelve focus groups were held with female non-smokers and occasional smokers ages 12 - 24 years.[60] In the focus groups, participants were shown 11 different kinds of cigarettes, one of which contained a flavor capsule.[60] The flavor capsule cigarette was referred to as "cool" and "high-tech" and participants liked the novelty of the product and thought it would be attractive to youth.[60] Participants also believed the flavor capsule cigarette would be less smelly, provide fresher breath, and be less irritating on the throat than non-flavored cigarettes.[60] One quantitative study examined the use of flavor capsule cigarettes and consumer perceptions in the US, Mexico and Australia using data from six quarterly waves of online survey data of adult smokers from 2012-2014.[10] In the US, flavor capsule smokers of premium brands reported that their brand was "more stylish" and smoother than non-flavored premium brand cigarettes and in Mexico, smokers of discount flavor capsule cigarettes were more likely to report their brand as smoother, and lighter than non-flavored discount cigarettes.[10] Smokers of premium capsule cigarettes in Mexico viewed their brand as smoother.[10] In 2015, another quantitative study used data from a survey of Mexican middle school students and examined brand recall, pack attractiveness, and interest in trying between packs of different brands and product type (non-flavored, menthol, light, and flavor capsule cigarettes). Results found that flavor capsules were independently associated with greater attractiveness and interest in trying among youth.[59] A second focus group study in Scotland with smokers 16 years of age and older found that of those participants who viewed flavor capsule cigarettes positively, they enjoyed benefits such as better taste, the choice of whether or not to burst the capsule, and reduced smell.[65] They also thought that flavor capsule cigarettes would be appealing to non-smokers.[65] These sentiments were also echoed in focus group discussions with

18 - 24 year old smokers in the United States where smokers of a flavored capsule cigarette variant, Camel Crush, said that crushing the capsule was enjoyable and suggested the cigarette would be attractive to newer or younger smokers.[129] In a 2016 survey of flavor capsule cigarette smokers in the United Kingdom, the most common reasons for reporting smoking capsule cigarettes were the taste, choice of flavor, and enjoyment associated with clicking the capsule.[130] A survey of young adult smokers and susceptible non-smokers in New Zealand found that non-smokers preferred flavor capsule cigarettes compared to unflavored cigarettes and that compared to daily smokers, non-daily, former, and never smokers were more likely to view the cigarette as smoother, more attractive, and more fun than daily smokers.[62] In some research studies previously mentioned, flavor capsule cigarettes were viewed as less harmful than non-flavored cigarettes among both adolescents and adults.[10,131] However, one survey found that capsule and non-capsule smokers did not differ in their perceptions of harmfulness of their usual cigarette brand compared to other brands.[63]

GAPS IN THE LITERATURE AND NEXT STEPS FOR RESEARCH

Given the popularity of menthol cigarettes in the Philippines and the potential for the innovation of the flavor capsule to inflate the issues associated with menthol cigarettes, it is crucial to understand the packaging components that are being used to market these products and understand consumer perceptions. There are several gaps in the literature that this study seeks to address.

Menthol Flavored Cigarettes And Flavor Capsule Cigarettes In The Philippines

Many flavor capsule brand variants are menthol flavored and have increased the menthol market share in many countries around the world. As a recent tobacco industry innovation,

further research should be done on flavor capsule cigarettes. The Philippines has one of the world's largest menthol market shares and flavor capsule cigarette sales are projected to grow, making this country a prime location for research on menthol and flavor capsule cigarettes.

Packaging

Research on the marketing of menthol cigarettes has focused on print advertisements at POS and in magazines, however research on the packaging components used to market menthol cigarettes is largely nonexistent. Packaging is essential to the tobacco industry's marketing strategy and creation of brand image. Further research should address this gap in the literature by examining the packaging components used on cigarette packaging and describe the similarities and differences between products that vary by flavor and other product design features like flavor capsules.

Consumer perceptions

Research on consumer perceptions of menthol cigarettes has largely been focused on developed countries such as the United States, New Zealand, Canada, and Australia. While many recent studies in these countries find that few people still believe that menthol cigarettes are less harmful than non-flavored cigarettes, the one study that was conducted in two LMICs in Southeast Asia (Thailand and Malaysia) found an increased percentage of consumers still believe that menthol cigarettes are less harmful than non-flavored cigarettes.[126] Early research on flavor capsule cigarettes has found that consumers believe that flavor capsule cigarettes are less harmful than non-flavored cigarettes and younger audiences like youth and young adults find them appealing.[10,59,132] It is important to understand consumer perceptions of menthol and flavor capsule cigarettes in order to counter potential false impressions of the products through policy

and communication interventions. Global research on product design can inform tobacco control regulations in other jurisdictions as changes are made to the tobacco market.[133]

PUBLIC HEALTH SIGNIFICANCE

This research addresses an emerging issue in a lower middle income country with a high burden of tobacco use and tobacco-related death and disease. It will add to our knowledge base on the marketing and consumer perceptions of menthol cigarettes in the context of LMICs and contribute to a growing body of literature on flavor capsule cigarettes.

In previous cases from around the globe, evidence of targeted marketing and misperceptions about tobacco products has led to policy action. As previously noted, a number of jurisdictions have now implemented or passed bans on flavored tobacco products, including menthol and flavor capsule cigarettes. This research will contribute to a growing body of literature that supports regulation of products that increase smoking initiation and foster misperceptions among consumers. In addition, findings can provide support for efforts that call for plain packaging, product display bans and larger graphic health warnings on tobacco packaging.

While the study will be specific to the Philippine context, the tobacco industry uses the same tactics globally and there are similarities in roll out and marketing of products by geographical region and country income. In terms of transferability, it is expected that results will be able to be applied to other low- and middle-income countries in the Western Pacific and Southeast Asian regions that are similar to the Philippines in terms of social, cultural and political aspects such as Indonesia, Cambodia, and Vietnam, all countries where tobacco use is high.

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CHAPTER 2 - STUDY AIMS AND METHODS

This chapter provides an overview of the dissertation research questions and aims, the conceptual orientation of this research, the conceptual framework, and the methods that were used in this dissertation study. First, the dissertation research questions, study aims, and hypotheses are provided. Second, the underlying conceptual orientation of the research and the overall conceptual framework utilized by this research is presented. Finally, a description of the overall mixed methods study design and the specific methods used for each strand of the study are detailed.

RESEARCH QUESTIONS AND AIMS

Research Questions

The central research questions are:

1. What packaging elements are used to market menthol and flavor capsule cigarettes in the Philippines?
2. What are consumer perceptions of menthol and flavor capsule cigarettes, in terms of appeal, harm, and intention to try?

Research Aims

Aim 1: To compare and describe the similarities and differences in packaging components being used between non-flavored, menthol-flavored, and flavor capsule cigarettes on the market in the Philippines

RQ. 1a: What structural components (pack type, opening style, shape) are used to package cigarettes?

RQ. 1b: What graphic components (color, imagery, descriptors) are used on cigarette packaging?

RQ. 1c: When comparing cigarette packaging, are there differences and/or similarities between the groups of packaging that vary by flavor and capsule presence and the structural and graphic components used?

Aim 2: To explore how young adult Filipinos interpret non-characterizing flavor (e.g. "ice blast", "purple mint") and capsule-related (e.g. "click on", "2 in 1") descriptors and imagery on cigarette packaging and how this influences their perceptions of product characteristics

RQ. 2a: What are young adult Filipinos' general impressions of menthol and flavor capsule cigarettes in terms of appeal and harm?

RQ. 2b: How do young adult Filipinos interpret non-characterizing flavor descriptors and commonly used descriptors and imagery on cigarette packaging?

RQ. 2c: What qualities do young adult Filipinos associate with the users of different categories of cigarettes?

Aim 3: To assess the impact of menthol flavoring and flavor capsules in cigarettes on young adult Filipino consumer perceptions of appeal, harm, and intention to try

Hypothesis 3a: Young adults who view flavored cigarette packs will be more likely to perceive the pack as more attractive and the product as less harmful and be more likely to report an intention to try the product compared to non-flavored cigarette packs.

Hypothesis 3b: Young adults who view flavor capsule cigarette packs will be more likely to perceive the pack as more attractive and the product as less harmful and be more likely to report an intention to try the product compared to non-flavored cigarette packs and flavored cigarette packs with no capsule.

Hypothesis 3c: Young adults who view menthol flavored cigarette packs will be more likely to perceive the pack as more attractive and the product as less harmful and be more likely to report an intention to try the product compared to non-flavored cigarettes.

CONCEPTUAL ORIENTATION

Looking to Marketing Concepts

Positioning and the marketing mix

Positioning is a term commonly used in marketing and has its origins in product packaging – it originally referred to product shape, package size, and price.[1] This concept has since expanded and positioning refers to a strategic process undertaken by companies to orient their product and influence how it will be viewed and situated in the minds of consumers. Positioning has the goal of differentiating the company's brand from other brands in the mind of the consumer. Positioning is accomplished by implementation of the marketing mix.[2] The marketing mix, also referred to as the 4 P's includes four components: product, price, promotion, and place. Packaging is sometimes considered an element of the product component or is listed as a fifth "P".[3,4]

Cues in marketing

Consumer preference and consumption behaviors are often made based on inferences which serve as heuristics that help consumers determine the quality of the product. In the absence of complete knowledge of all product offerings, consumers make decisions about product purchases by inferring characteristics about the product based on product cues.[5,6] In marketing, cues provide information that speak to the characteristics of the product.[6] Cues are often classified as intrinsic or extrinsic. Intrinsic cues relate to the physical properties of the product, such as taste

or ingredients of a product. Extrinsic cues refer to items that are not necessarily inherent to the product but are attributed to the product, such as brand, price, and packaging.[7] Inferences made by consumers largely depend on cue diagnosticity, meaning the extent to which a cue helps the consumer distinguish between alternative product categories (for example, high quality versus low quality or differences in taste).[8,9] Nondiagnostic cues are less likely to be used by consumers to make inferences. Key tenants of cue diagnosticity are that it is subjective and defined with respect to the consumer's goals.[9] Within the specific context of cigarette packaging, cues can signal meanings related to attributes that smokers or potential smokers may value such as taste, sensory effects, and aspirational lifestyle. Indeed, verbal cues like brand name and visual cues like color and package shape have been proven to influence consumer preference and consumption behaviors. I am interested in how the visual cues communicated through packaging, in their entirety, impact consumer perceptions and thus, behavior. The following theory, the Context of Consumption Framework provides us with a framework for understanding how these visual cues are transmitted to the consumer and then used in the consumer decision making process.

Context of Consumption Framework

The Context of Consumption Framework is a theory-informed framework that was created in 2004 by academics in design who recognized the need for such a framework due to a lack of connection between the literature on consumer response to product experience and a lack of integration of existing models and frameworks to establish a general perspective.[10] Since then, the framework has been widely used in design and has been adapted for use in tobacco regulatory science. The framework focuses on consumer response to visual information and is oriented towards physical products, however is also applicable to other media. The central foundations of the framework are semiotics and Monö's adaptation of the Shannon-Weaver model of

communication. Semiotics is the study of how meaning is made and communicated. In terms of graphic design, semiotics refers to how designers communicate about the product using signs and symbols.[10] The Shannon-Weaver model of communication asserts that the source produces a message that is encoded into a signal, transmitted through a channel, and decoded by the receiver, reaching its destination.[10] Monö applied the Shannon-Weaver model to product design – in his adapted model, the producer is the designer and manufacturer of the product, the product transmits the message, the channel is the environment that the consumer interacts within, the receiver is the consumer's senses, and the destination is the consumer's response to the message (comprised of cognition, affect, and behavior).[10] In their Context of Consumption Framework, Crilly and colleagues from the Engineering Design Centre at the University of Cambridge expand on Monö's framework for design as a process of communication.

Much like Monö's framework, the main constructs of the Context of Consumption Framework are 1) design team (producer), 2) product (transmitter), 3) environment (channel), 4) senses (receiver) and 5) response (destination) which is comprised of the cognitive response, affective response, and behavior.[10] Each main construct is detailed here:

1) Design team (producer): The team that decides on what the product design should convey, including those involved in the management and actual design of the product.
2) Product (transmitter): Product characteristics such as dimensions, color, graphics, and materials.
3) Environment (channel): The physical conditions in which the product is presented.
4) Senses (receiver): Physiological senses (vision, taste, smell, touch)– in the case of the perception of physical products, vision is of central importance.

5) Response (destination):

   a. Cognitive response: Consumer judgments based on the information perceived by the senses, including evaluation of the products' qualities. These three components of cognitive response are inter-related, with each influencing the other. It is also important to note that these perceptions are not related to objective qualities of the product but rather, are driven by perceptions of physical stimuli and pre-existing knowledge.

      i. Aesthetic impression: Sensation that is the result of whether one perceives the product to be attractive or unattractive.

      ii. Semantic interpretation: What a product is perceived as communicating about its qualities and function.

      iii. Symbolic association: What the product is perceived as communicating about the person who owns or uses it.

   b. Affective response: Emotional responses elicited by products.

      i. Instrumental: Whether consumer thinks the product will help them achieve their objectives (e.g. disappointment or satisfaction)

      ii. Aesthetic: Refers to whether senses are "delighted or offended" (e.g. disgust or attraction)

      iii. Social: To what level products are seen as in line with socially accepted standards (e.g. indignation or admiration)

      iv. Surprise: Refers to whether or not the product is perceived as novel (e.g. amazement)

v. Interest: Refers to whether the product invokes feelings of boredom or fascination

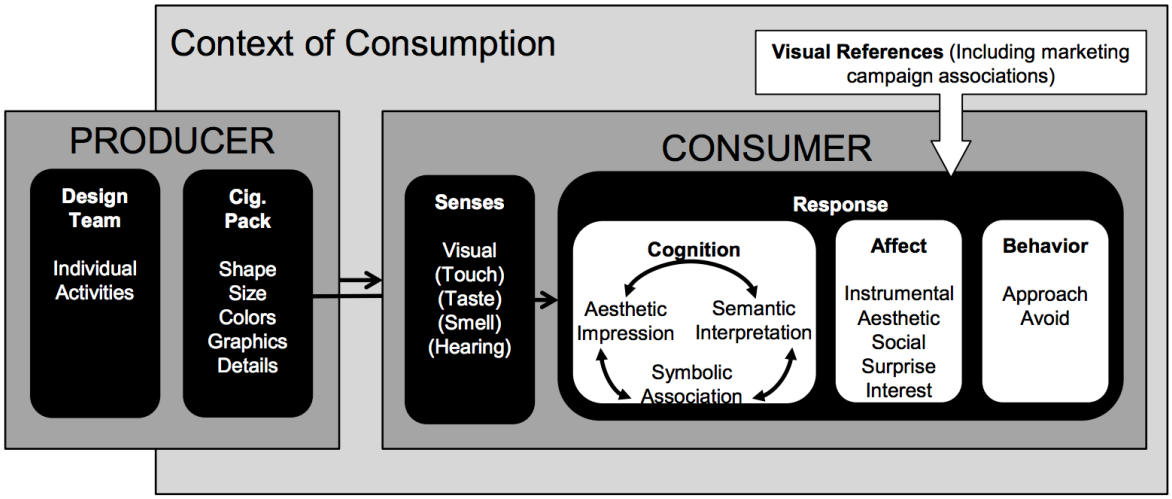
c. Behavioral response: In the Context of Consumption Framework, behavioral responses are dichotomized into two behaviors – approach or avoid. Approach behaviors may consist of further investigation into the product, a product purchase, or product use. Avoidance behaviors may consist of ignoring the product, failing to purchase, or failing to use the product.

The overall context of consumption also includes moderating influences which are described as disturbances during the communication process in the presence of noise. Moderating influences include but are not limited to organizational issues (impact the design phase), product quality, and sensory capabilities (e.g. consumer's color vision, visual acuity).[10] Moderating influences that impact the response include personal characteristics (e.g. age, personality, gender), cultural factors, and situational factors (e.g. motivation, opportunity).[10] Visual references are also key to the framework and are defined as external sources that consumers draw on as points of reference to help understand the product.[10] Examples of visual references are consumer's stereotypes of the product category and similar products within the category. These references help the consumer construct meaning out of the visual information that the product presents.

The Context of Consumption Framework has recently been adapted by Lee and colleagues for use as a framework that can guide tobacco regulatory science and help researchers better understand visual changes to the cigarette pack and consumer perceptions of the product.[11] The different constructs of the framework are supported by the tobacco control literature and a recent study on its applicability to tobacco control show that the framework is consistent with how adult smokers talk about the visual design of packs.[12] Figure 2.1 is an adapted Context of Consumption

Framework as it could be applied to research on cigarette packaging.[11] In this adapted framework, the design team references the tobacco industry and the product is the cigarette packaging specifically.

Figure 2.1. Context of Consumption Framework, as Applied to Research on Cigarette Packaging



My study will apply this framework to the study of the packaging components of the cigarette pack and how consumers respond to these visual stimuli. As previously mentioned, strand 1 will examine the structural and graphic components of cigarette packaging and describe how different categories of packs differ in design, focusing solely on the product construct. In terms of measuring consumer response, I will focus on measuring specific cognitive and behavioral responses. These constructs were chosen to examine due to their relevance to tobacco regulatory science, as evidenced in my literature review on menthol and flavor cigarettes. In terms of cognitions, aesthetic impression will be evaluated by assessing consumer perceptions of the appeal of the packaging during strands 2 and 3. While semantic interpretation refers to perceived mode-of-use, function, and quality, and therefore can encapsulate a number of perceived qualities, in the

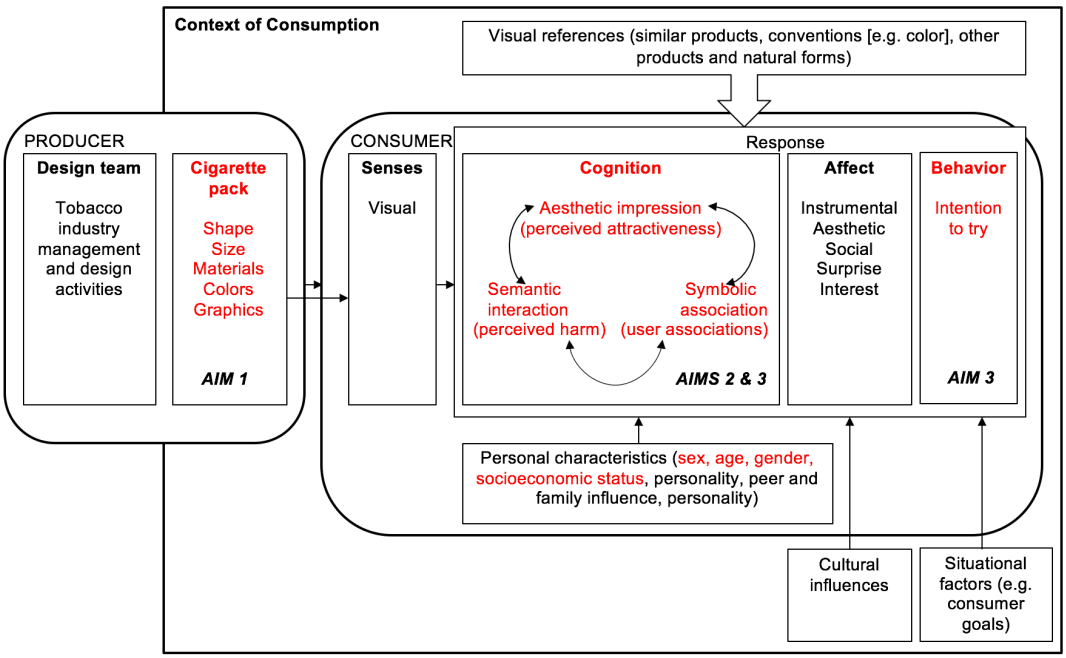
context of the study, perceived harm was deemed to be the most important construct and will be evaluated in strands 2 and 3. In strand 2, symbolic associations will be evaluated by assessing what the different products connote about the user of the product. In strand 3, approach and avoidance behaviors will be assessed by measuring intention to try the product. Research shows that intentions are a good proxy for future behavior.[13]

CONCEPTUAL FRAMEWORK

The following conceptual framework (Figure 2.2) will guide my research. The framework is an adaptation of Lee and colleagues' adaptation of the Context of Consumption Framework, developed based on theory and empirical research. In review, the Context for Consumption Framework, as adapted for use in tobacco regulatory science, details how visual stimuli such as tobacco packaging are transmitted and impact consumer response, including consumer perceptions and behavior. I have revised the framework to include the specific constructs I intend to examine or control for in my study (highlighted in red), provided examples of visual references as it pertains to my study, and added moderating influencers that the literature and the original framework support. In this framework, the cigarette pack is presented as the stimuli that is transmitted to the consumer through the sense of vision (or sight). Subsequently, consumers react to the visual stimuli through a combination of cognitive perceptions and affective reactions, resulting in a behavioral choice – intention to try is highlighted as the key approach/avoidance behavior to be examined in my study. Examples of visual references that may moderate consumer response include one's exposure to similar products, one's knowledge of conventions used in cigarette packaging (e.g. green color to connote a menthol flavor), and one's knowledge of other products and natural forms. For example, the user may reference a cell phone in the case that the packaging is using technological imagery and may therefore, infer innovation from the packaging. In terms

of natural forms, the user may reference the female form when the packaging uses a slim shape and may therefore, evoke associations with a female user. Other moderating influencers include personal characteristics, cultural influences, and situational factors. Demographics such as age, gender, and sex[14–18], socioeconomic status[19,20], peer and family influence[21,22,31,32,23–30], and personality are known to impact response, namely smoking behaviors. Potential cultural influences include social or perceived norms toward smoking, but as included in the original model, may also include cultural agreements on what materials should be valued or what aspirations are socially acceptable and the consumer may consider how the product reinforces these aspirations. In line with key tenants of cue diagnosticity, situational factors encompass consumer goals – depending on the consumer's reason for viewing the product, they may weight one cognition more than another. The study aims are mapped on to the conceptual framework, providing a guide as to what elements of the framework are under examination in each strand of the study.

Figure 2.2. Conceptual Framework



METHODS

Mixed Methods Multiphase Design

This study employed a multiphase mixed methods design. Mixed methods research is defined as a line of inquiry that collects and analyzes both qualitative and quantitative data; mixes the two forms of data; gives priority to one or both forms of data; uses these procedures in a single study or multiple phases; frames these procedures within philosophical worldviews and theoretical lenses; and combines the procedures into specific designs that direct the plan for conducting the study.[33] By employing both qualitative and quantitative methods, overarching research questions can be explored and contextualized better than one method would be able to on its own.[33] Four key considerations were accounted for when choosing an appropriate design for use in this study. Considerations and decisions are included in Table 2.1.

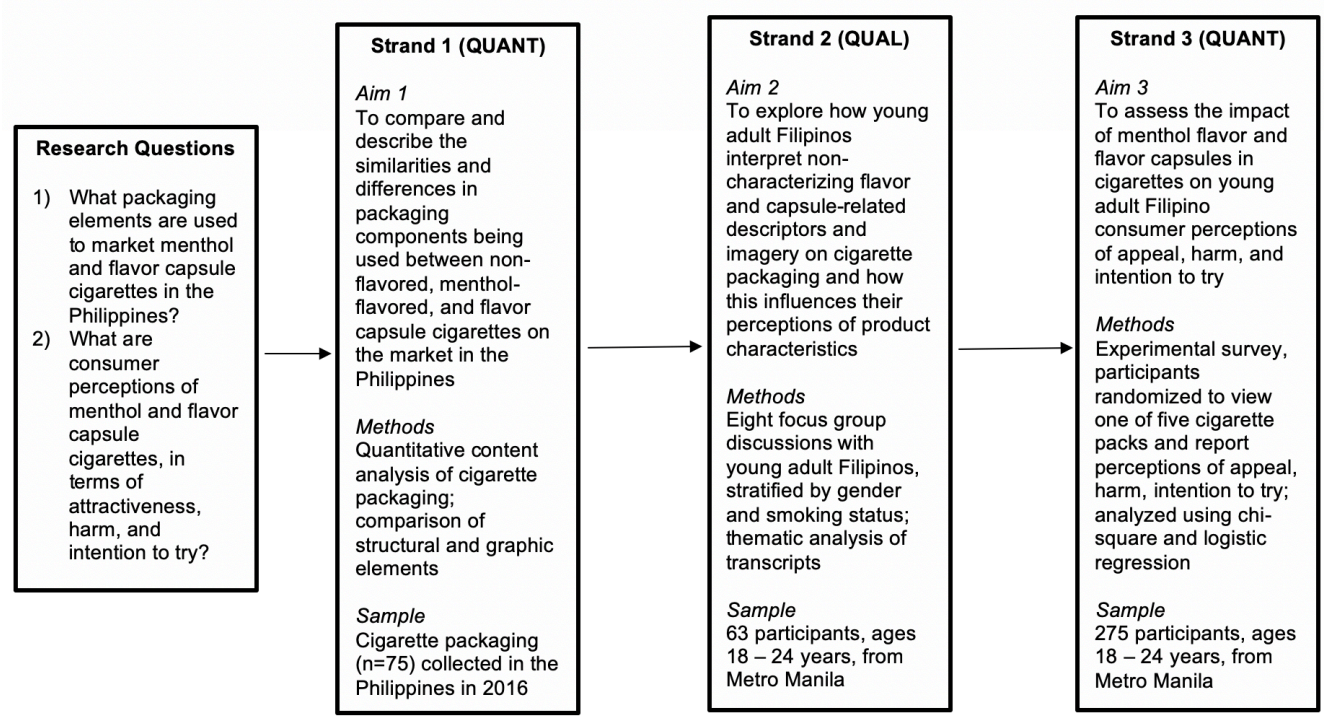
Table 2.1. Considerations for Mixed Methods Study and Study Decisions

Consideration	Decision
Level of interaction between strands	Interactive – results from strand 1 will influence choice of stimuli used in strands 2 and 3; strand 2 will help inform instrument development for strand 3
Priority of strands	Equal emphasis on quantitative and qualitative methods
Timing of strands	Multiphase combination timing – QUANT →QUAL→QUANT
Where and how to mix	Mixing during data collection – Mixing occurs by using strategy of connecting where results of one strand build to the collection of the other type of data

The multiphase design was chosen for this line of research and addressed two central research questions: 1) What packaging elements are used to market menthol and flavor capsule cigarettes in the Philippines? and 2) What are consumer perceptions of menthol and flavor capsule cigarettes, in terms of product characteristics, appeal, harm, and future smoking behaviors? In this

multiphase design, three phases of research were conducted over time. Each phase addressed one aim of the study. The types of data collected in each phase were a quantitative content analysis, qualitative focus group discussions, and a quantitative randomized experimental survey; data was collected sequentially. The reason for using a multiphase design is that a need existed as one data source was insufficient to answer my central research questions. Given the lack of research on this topic at the start of the project, each phase of research built on the next and allowed for exploratory research and follow up with a study to generalize and test what was learned from exploration. Figure 2.3 provides a study diagram, detailing each phase of the design.

Figure 2.3. Multiphase Mixed Methods Study Design



Strand 1 (Quantitative)

Aim 1: To compare and describe the similarities and differences in packaging components being used between non-flavored, menthol-flavored, and flavor capsule cigarettes on the market in the Philippines

Methods

To address aim 1, I conducted a comparative basic content analysis of cigarette packages on the market in the Philippines in 2016. A basic content analysis is a methodology used to identify and describe themes, as well as the devices used to deliver the content, and is descriptive in purpose.[34] In quantitative form, a content analysis is a textual analysis in which categories are established a priori and the number of instances that fall into each category are counted during analysis.[35]

Packaging is comprised of two different "blocks of components" – what marketers call graphic components and structural components.[36] Graphic components are elements such as imagery, color and typography whereas structural components refer to elements such as size, shape, and opening style of the pack.[36] I compared and described the similarities and differences in the graphic and structural packaging components used to market different packs, distinguished by flavor and capsule inclusion (e.g. non-flavored/no capsule cigarettes, menthol flavored/no capsule cigarettes, menthol flavored capsule cigarettes), to understand the product characteristics being highlighted and elucidate any differences the tobacco industry is using to market these products through packaging.

Data source

I utilized data from the Tobacco Pack Surveillance System (TPackSS) which consists of a census of cigarette packs on the market in the Philippines in 2016. TPackSS is a surveillance system managed by the Institute for Global Tobacco Control (IGTC) at Johns Hopkins Bloomberg School of Public Health and is funded by the Bloomberg Initiative to Reduce Tobacco Use. TPackSS monitors tobacco packaging on the market in several low- and middle-income countries and assesses the compliance of health warning labels with country health warning label regulations and examines the features and appeals being used on packaging to market the products.

In November 2016, IGTC staff collaborated with partners in the Philippines to collect cigarette packs. The in-country partner, GoodThinking, Inc. is a market research company based in Manila that has no tobacco industry ties. Training of GoodThinking staff took place over a four-day period and data collection took place over ten days. Data collection took place in three cities – Manila, Cebu, and Davao – chosen based on population size and cultural, geographic, and linguistic diversity. Within each city, low, middle and high socioeconomic (SES) neighborhoods were identified based on property value data and a sample of twelve neighborhoods (4 from each SES strata) were selected for data collection. Within each neighborhood, data collectors followed a walking protocol and visited one of four pre-identified types of vendor selected based on the most popular locations for consumers to purchase tobacco. Vendor types included sari sari shops (small locally owned neighborhood stores), mall kiosks, convenience stores (small national chain retailers), and supermarkets. One of every unique cigarette pack (any packs with at least one difference in exterior feature of the pack e.g. stick count, size, brand name, color, cellophane, packaging material, imagery, descriptors) was purchased in each neighborhood. If a unique cigarette pack was not found at the first vendor in the neighborhood, data collectors continued

following the walking protocol until at least one unique cigarette pack was identified, up to a maximum of four vendors. In addition to the unique pack sample, one of the following variants of cigarettes was purchased at every vendor where a purchase was made: Mighty, Fortune International, Marlboro Red, and Champion menthol. At the first vendors visited in Cebu and Davao, all unique cigarette packs were purchased.

After data collection, all cigarette packs were shipped back to the IGTC office in Baltimore, MD. A codebook for examining the physical, textual, and visual aspects of the packaging was developed by TPackSS based on empirical literature in tobacco control and marketing and existing coding systems for tobacco packaging (such as the Chatterbox website).[37] A final version of the codebook can be found online at globaltobaccocontrol.org/tpackss. Packs were coded for packaging components by two independent coders and a third party resolved any discrepancies.

Data analysis

The final sample of unique cigarette packs collected in the Philippines that were legal and displayed a Philippines health warning label in rotation at the time of data collection consisted of 75 cigarette packs. Data analyses relied on descriptive analysis, mostly frequency counts, and the Fisher's exact test and were completed in Stata 14.[38] Appendix 1 lists the structural and graphic components that were coded and examined.

In addition to descriptive statistics, the Fisher's exact test was used to compare presence of structural and graphic components across different product type packaging. Cigarette packs were based on flavor and flavor capsule presence. Categories included the following groups of cigarettes: (1) non-flavored non-capsule; (2) menthol non-capsule; (3) menthol capsule; and, (4) non-menthol capsule. The Fisher's exact test is a statistical significance test that is used in the

analysis of contingency tables.[39] The presence of specific structural and graphic components on packaging were reduced to "present" or "not present" and compared across the groupings of cigarettes. Pairwise comparisons were then made and the Bonferroni correction was applied to assess significance. Although a chi-squared test could also be used, the Fisher's exact test was chosen based due to the small sample size in each grouping of cigarettes.[39] I do not assume that our dataset follows a predefined distribution so a nonparametric test is suitable in this instance because it makes no assumptions about the distribution of originating data.[39]

Validity and reliability

In order to improve internal validity, the codebook went through multiple iterations and was reviewed by subject experts.[37] Data collection aimed to collect a census of cigarette packs on the market in the Philippines by collecting packs in diverse cities and in neighborhoods that varied by socioeconomic status, increasing the external validity.

Intercoder reliability was assessed using percent agreement and the prevalence-adjusted and bias-adjusted kappa statistic (PABAK).

Strand 2 (Qualitative)

Aim 2: To explore how young adult Filipinos interpret non-characterizing flavor (e.g. "ice blast", "purple mint") and capsule-related (e.g. "click on", "2 in 1") descriptors and imagery on cigarette packaging and how this influences their perceptions of product characteristics

Methods

To address aim 2, eight focus groups of 7 - 8 participants were conducted. Focus groups are a method of collecting qualitative data that involves holding a discussion with a small group

of people that is centered around a specific topic of inquiry.[40] Strengths of using focus groups are to obtain in-depth information and information about social norms.[40] Eight focus groups were enough to reach saturation.

Groups were homogeneous, comprised of young adults and stratified by smoking status (smokers and non-smokers) and gender. The eight focus groups of young adults (ages 18-24 years) were divided as such: two groups with females who are smokers, two groups with males who are smokers, two groups with females who are non-smokers, and two groups with males who are non-smokers. Smokers were defined as individuals who reported smoking at least 100 cigarettes in their lifetime and currently smoke all or some days. Non-smokers were defined as individuals who reported never smoking, smoking less than 100 cigarettes in their lifetime, or having smoked at least 100 cigarettes in their lifetime, but currently smoking not at all.

Young adulthood is an important time to intervene on smoking behavior – the average age of daily smoking initiation for males and females in the Philippines is 18 years.[41] In addition, younger age is associated with between-brand and within-brand switching.[42] In the Philippines, 38.9% of males smoke manufactured cigarettes whereas 4.2% of females smoke manufactured cigarettes.[41] In addition, the tobacco industry has historically used different marketing tactics to appeal to different genders. Smokers and non-smokers were included in focus groups because there is an interest in understanding how both those who have not smoked or are yet to progress to daily smoking and those who already smoke on a regular basis perceive different types of cigarette products. Additionally, regular and occasional smokers cite different motivations for smoking. Every day smokers cite cravings and avoidance of the negative consequences associated with withdrawal as reasons for smoking while occasional smokers more often cite smoking cues, weight loss, and sensory experiences associated with smoking as motivations.[43]

Sampling and recruitment

The seventeen municipalities and cities comprising Metro Manila served as the sampling frame for focus group discussion recruitment. Barangays (defined by the Philippines Statistical Authority as the smallest political unit into which cities and municipalities in the Philippines are divided) served as the primary sampling unit. Barangays were randomly selected from the seventeen municipalities and cities in Metro Manila and the number selected was proportion to population (see Table 2.2). In order to avoid a clustering effect, no more than five participants were selected to participate in focus group discussions per barangay. Within each barangay, households were randomly selected and if there was more than one eligible household member, an individual was randomly selected using a computer tablet. We employed a quota-based sampling procedure to ensure that relevant sociodemographics were represented in the sample. As seen in Table 2.3, for focus groups, quotas were set for sex (male and female) and smoking status (smoker and non-smoker). A recruitment questionnaire was used to capture information on age, gender, and smoking status. Eligibility criteria included being 18-24 years old, residing in the Philippines, and being able to read and speak Tagalog.

Participants were selected via house-based recruitment. Starting with a random starting point, and visiting every n^{th} household, study staff visited households to enroll participants. House skipping was based on population density and nature of the housing stock, per MORES recommendation. Following random selection of barangays, the selection of a random starting point for recruitment within each barangay was chosen and household recruitment proceeded as illustrated by the following steps. Barangay Santa Lucia within Pasig City is used as an example.

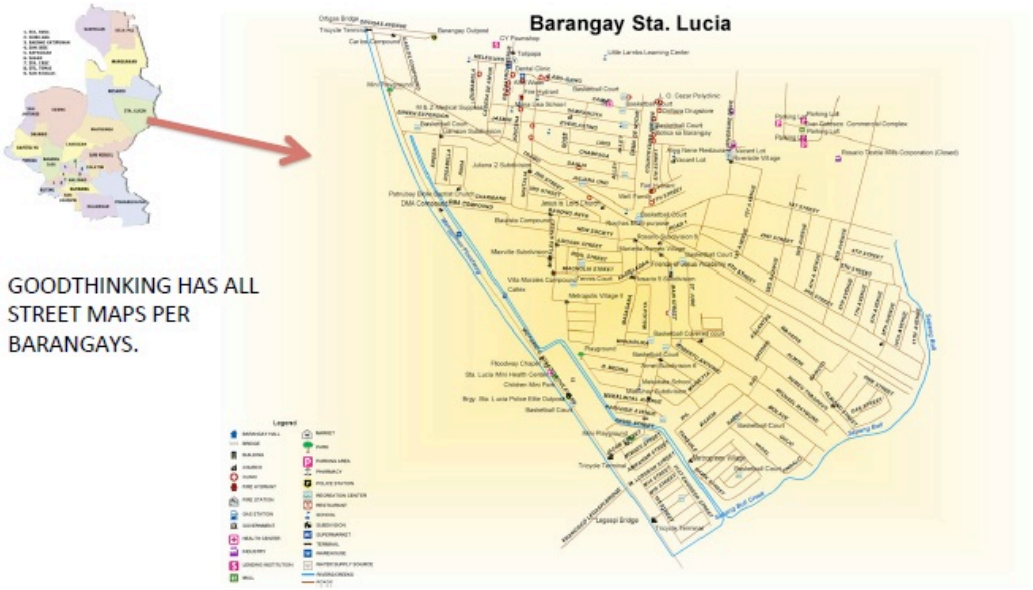
Table 2.2. Sampling Frame for Focus Group Discussions

City/municipality	Population	% Total Pop.	Sample Size	# Barangays
Manila	1,763,348	14	13	3
Mandaluyong	377,850	3	3	1
Marikina	448,893	4	4	1
Pasig	753,030	6	6	2
San Juan	121,197	1	1	1
Quezon City	2,919,657	23	22	5
Caloocan	1,518,025	12	12	3
Malaban	364,283	3	3	1
Navotas	249,176	2	2	1
Valenzuela	619,324	5	4	1
Las Pinas	587,675	5	4	1
Makati	579,433	5	4	1
Muntinlupa	481,762	4	4	1
Paranaque	663,733	5	4	1
Pasay	412,497	3	3	1
Pateros	63,643	0	1	1
Taguig	801,143	6	6	2

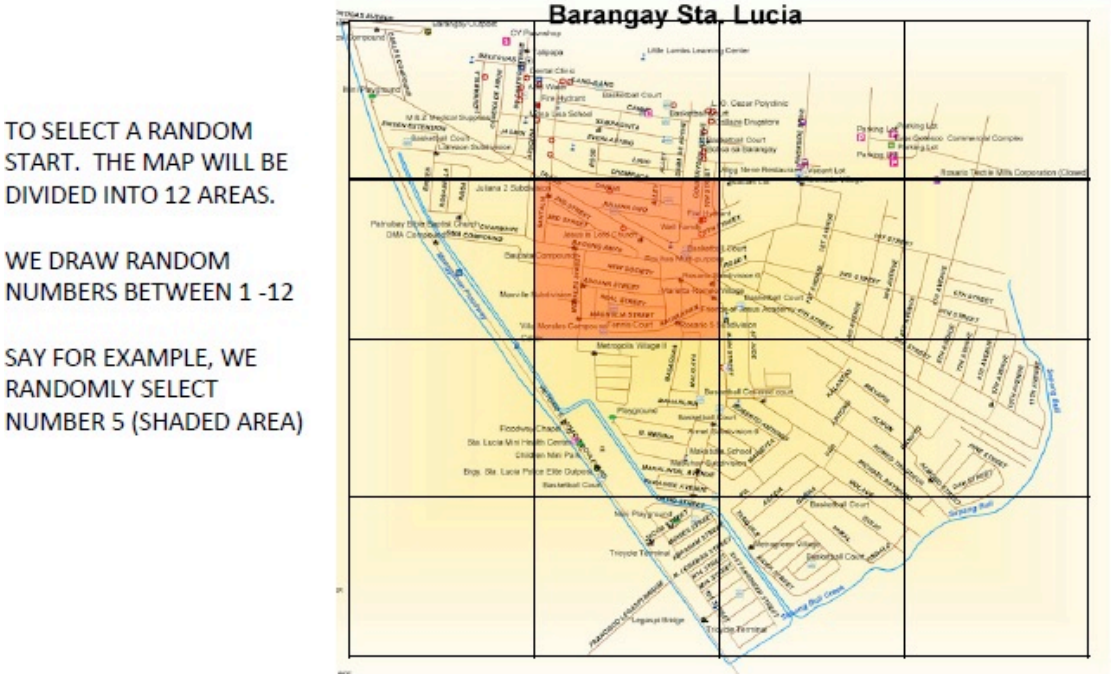
Table 2.3. Quotas for Focus Group Discussions

Group	Participant characteristics	Quota
1	Female smokers	10
2		10
3	Female non-smokers	10
4		10
5	Male smokers	10
6		10
7	Male non-smokers	10
8		10

1. Barangay street maps detailed each city/municipality within Metro Manila:



2. An area within each barangay was randomly selected:



3. A random starting point was selected:

IN THE RANDOM AREA, THE RANDOM STARTING POINT IS THE CORNER OF THE BLOCK NEAREST TO:

a. Barangay Hall (the smallest local government office); or

b. Biggest Public School

4. A walking protocol was carried out for complete saturation of randomly-selected areas:

FROM THE RANDOM STARTING POINT, AREA COVERAGE SHOULD BE:

a. Right coverage – every nth house (random interval varies depending on how densely populated)

b. Block to block

c. Penetrate alleys with houses

5. A house skipping protocol was carried out by recruiters:

   Every 4th house was approached in areas defined by the following housing structures:

   - Equally-sized, free standing houses located in exclusive/gated subdivisions
   - Large condominiums and apartments
   - Townhomes

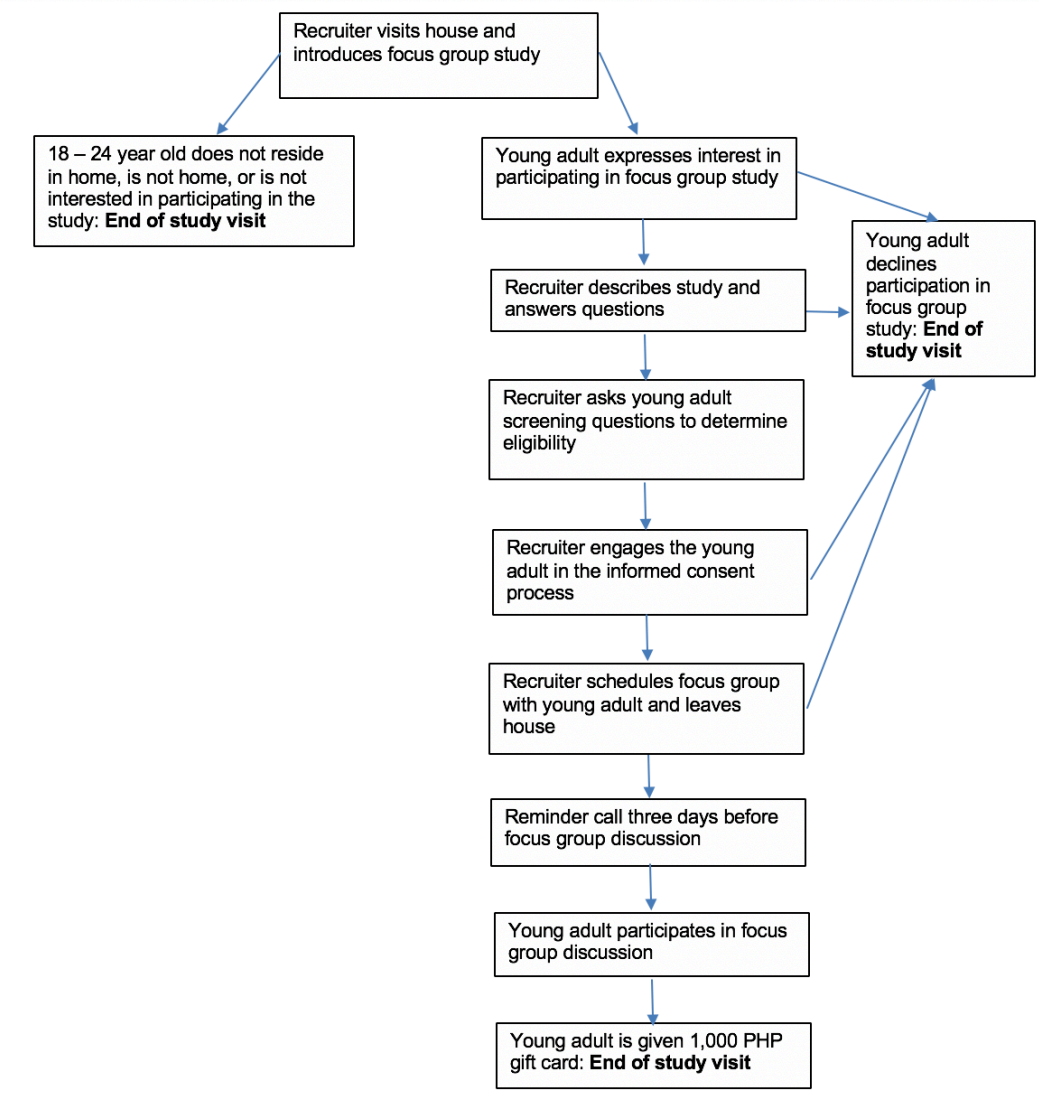
Every 6th house was approached in areas defined by the following housing structures:

- Small, bungalow-style apartments made of permanent or semi-permanent materials

If the eligible participant was not in their residence or if there was no response/no one was inside the residence, the residence was skipped.

When eligible participants were home, recruitment proceeded as depicted in Figure 2.4.

Figure 2.4. Recruitment and Enrollment Sequence for Focus Group Discussions



Data collection

Focus groups were held at the office of GoodThinking, Inc. and moderated in Tagalog by GoodThinking, Inc. staff. While English and Tagalog are both official languages in the Philippines, conducting the focus groups in Tagalog comes at a recommendation made by in-country partners to the Institute for Global Tobacco Control (IGTC). One female moderator, fluent in English and Tagalog and experienced in qualitative research, facilitated all focus group discussions. The moderator was previously unknown to participants. A notetaker was also present for focus group discussions. In a second room, a translator listened to the focus group discussions and translated the discussion into English for the student investigator and local research team who sat in a third room and observed the discussions on a television screen and listened to audio via a separate speaker. All focus group discussions were video and audio recorded and lasted 80 – 110 minutes each.

In focus groups, how participants interpret the meaning of various imagery and descriptors on different types of cigarette packs (e.g. non-flavored, menthol, and flavor capsule cigarettes) and the characteristics they associate with the products were explored. The focus groups followed the following general structure that is commonly used in focus groups[40]. Appendix 2 includes the of the full discussion guide in English.

1. Group introduction: Included an overview of the focus group process, the purpose of the focus group, ground rules for the focus group, consent, and participant questions were answered
2. Participant introductions
3. Cigarette grouping/ordering activity and engagement questions
4. Exploration questions

5. Closing questions
6. Debrief and distribution of incentives: Participants received an incentive and transportation stipend at the end of the focus group

The cigarette packs shown to participants were chosen based on results from strand 1, as well as those observed on the market in March 2019. Packs shown to participants included those that were identified and coded as representative of the graphic components that are most frequently displayed on packs of categories as they were grouped based on flavor and flavor capsule presence during the course of strand 1. As a means of facilitating discussion, participants were asked to examine the 26 cigarette packs that were presented and group them as they deem appropriate. Then they were asked to order the cigarettes based on appeal of packaging (most/least), harm (most/least), and group them by flavor. This is similar to an activity undertaken in a focus group that previously explored consumer perceptions of cigarettes varying by product design.[45] Following completion of the exercises, a discussion on the grouping and ordering of the cigarettes was led by the moderator, with probing questions on the meanings of the descriptors on the packaging, what characteristics are associated with the packaging imagery and descriptors, and what the different groupings of products are perceived to communicate about the consumers who smoke them. After completion of the focus group discussion, participants were be debriefed on the harms of tobacco. A small incentive of 1,000 PHP (~20 USD) and a transportation stipend of 300 PHP (~6 USD) were given to participants of the focus group discussions at the end.

Data analysis

Video and audio-recorded focus groups were transcribed and translated into English by GoodThinking, Inc. staff. I then conducted a thematic analysis of translated focus group transcripts. Thematic analysis is a method used to organize and report patterns within data.[46]

MAXQDA Analytics Pro 2018 was used for analysis. Appendix 3 includes a copy of the codebook that was used. The following phases were followed during the course of the thematic analysis[46]:

1. Familiarization with the data: Read and re-read data; made notes on initial ideas; discussed transcriptions with GoodThinking, Inc. staff
2. Generated initial codes: Coded data systematically across the entire data set and collate data relevant to each code
3. Searched for themes: Collated codes into potential themes
4. Reviewed themes: Checked if the themes worked in relation to the coded extracts (Level 1) and data set as a whole (Level 2); created thematic map
5. Defined and named themes: Generated definitions and names for each theme
6. Organized paper on findings: Chose example extracts for paper; finalized analysis of extracts; related final analysis back to the research question and literature

Dependability and credibility

In order to ensure dependability of results, the moderator was consistent throughout the focus group discussions and I reviewed notes with the moderator of the focus group discussions, as well as the research team observing the discussions, on a frequent basis. Final interpretations of the transcripts were made in collaboration with our co-investigator at GoodThinking, Inc. In order to ensure credibility, descriptions of the data are context-rich and negative cases of findings were sought and reported.

Strand 3 (Quantitative)

Aim 3: To assess the impact of menthol flavoring and flavor capsules in cigarettes on young adult Filipino consumer perceptions of appeal, harm, and intention to try

Methods

To address Aim 3, a cross-sectional randomized experimental survey was conducted. The number of conditions included in the design were dependent on results from strand 1, as well as observations and findings from strand 2. Participants were randomized to view packaging stimuli. Packaging stimuli were images of fictitious cigarette packs, designed using structural and graphic components that were identified as representative of packaging categories distinguished by flavor and capsule presence. Fictitious packaging stimuli used a brand name of a cigarette sold in non-neighboring countries that would likely be unfamiliar to Filipino smokers and non-smokers. Using a fictitious brand (including associated coloring and imagery) avoided contamination from pre-existing perceptions of current Filipino brands that could make it hard to conclude that the product characteristics (i.e. flavor and flavor capsule presence) are the result of any differences in the dependent variables we see between groups. After participants answered questions about their smoking habits, they were randomly assigned to view one of five images of packaging stimuli. Participants then answered questions on the perceived relative harm of the product, the appeal of the packaging, and their intention to try the product. At the end of the questionnaire, participants also answered questions on demographics.

Sampling and recruitment

Young adults (ages 18-24 years) were recruited to participate in this study by GoodThinking, Inc. staff via household recruitment. Similar to what was described for strand 2, the seventeen municipalities and cities comprising Metro Manila served as the sampling frame for survey recruitment. Barangays served as the primary sampling unit. Barangays were randomly selected from the seventeen municipalities and cities in Metro Manila and the number selected was

proportion to population (see Table 2.4). In order to avoid a clustering effect, no more than five participants were selected to participate in focus group discussions per barangay. Within each barangay, households were randomly selected and if there was more than one eligible household member, an individual was randomly selected using a computer tablet. We employed a quota-based sampling procedure to ensure that relevant sociodemographics were represented in the sample. As seen in Table 2.5, for the survey, quotas were set for smoking status (smoker and non-smoker). However, this served as a soft quota as participants were asked to complete the questionnaire after the quota had been filled in order to ensure an adequate sample size. Eligibility questions was used to capture information on age and smoking status. Eligibility criteria included being 18-24 years old, being a resident of the Philippines, and being able to read and speak Tagalog.

Table 2.4. Sampling Frame, Survey

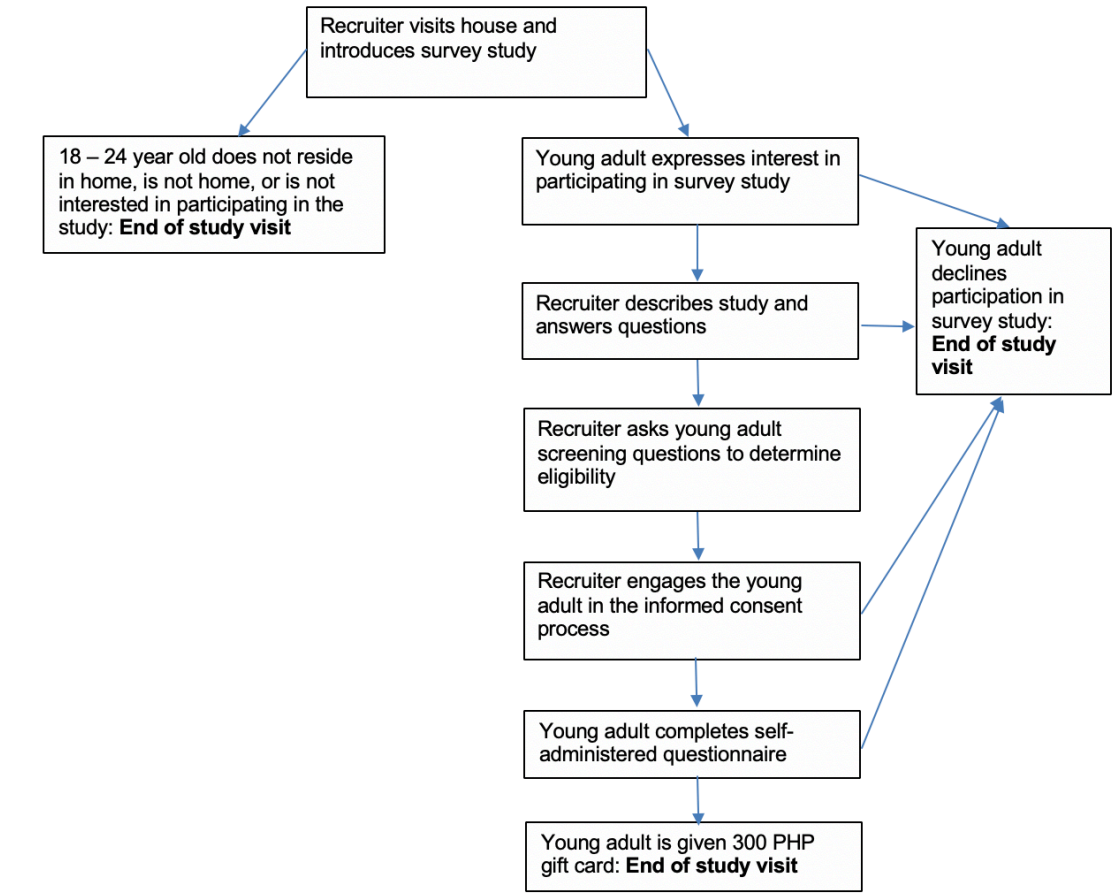
City/municipality	Population	% Total Pop	Sample Size	# Barangays
Manila	1,763,348	14	33	7
Mandaluyong	377,850	3	7	2
Marikina	448,893	4	8	2
Pasig	753,030	6	14	3
San Juan	121,197	1	2	1
Quezon City	2,919,657	23	55	11
Caloocan	1,518,025	12	30	6
Malaban	364,283	3	7	2
Navotas	249,176	2	5	1
Valenzuela	619,324	5	12	3
Las Pinas	587,675	5	11	3
Makati	579,433	5	11	3
Muntinlupa	481,762	4	9	2
Paranaque	663,733	5	12	3
Pasay	412,497	3	8	2
Pateros	63,643	0	1	1
Taguig	801,143	6	15	4

Table 2.5. Quotas for Survey

Survey condition	Smoker	Non-smoker	Total
Non-flavored/no flavor capsule	25	25	50
Menthol flavored/flavor capsule	25	25	50
Menthol-flavored/no flavor capsule	25	25	50
Purple menthol flavored/flavor capsule	25	25	50
Purple menthol flavored/no flavor capsule	25	25	50
TOTAL	125	125	250

Participant selection followed the same process described in the sampling for strand 2, pages 57 – 59. When eligible participants were home, recruitment proceeded as depicted in Figure 2.5.

Figure 2.5. Recruitment and Enrollment Sequence for Survey



Data collection

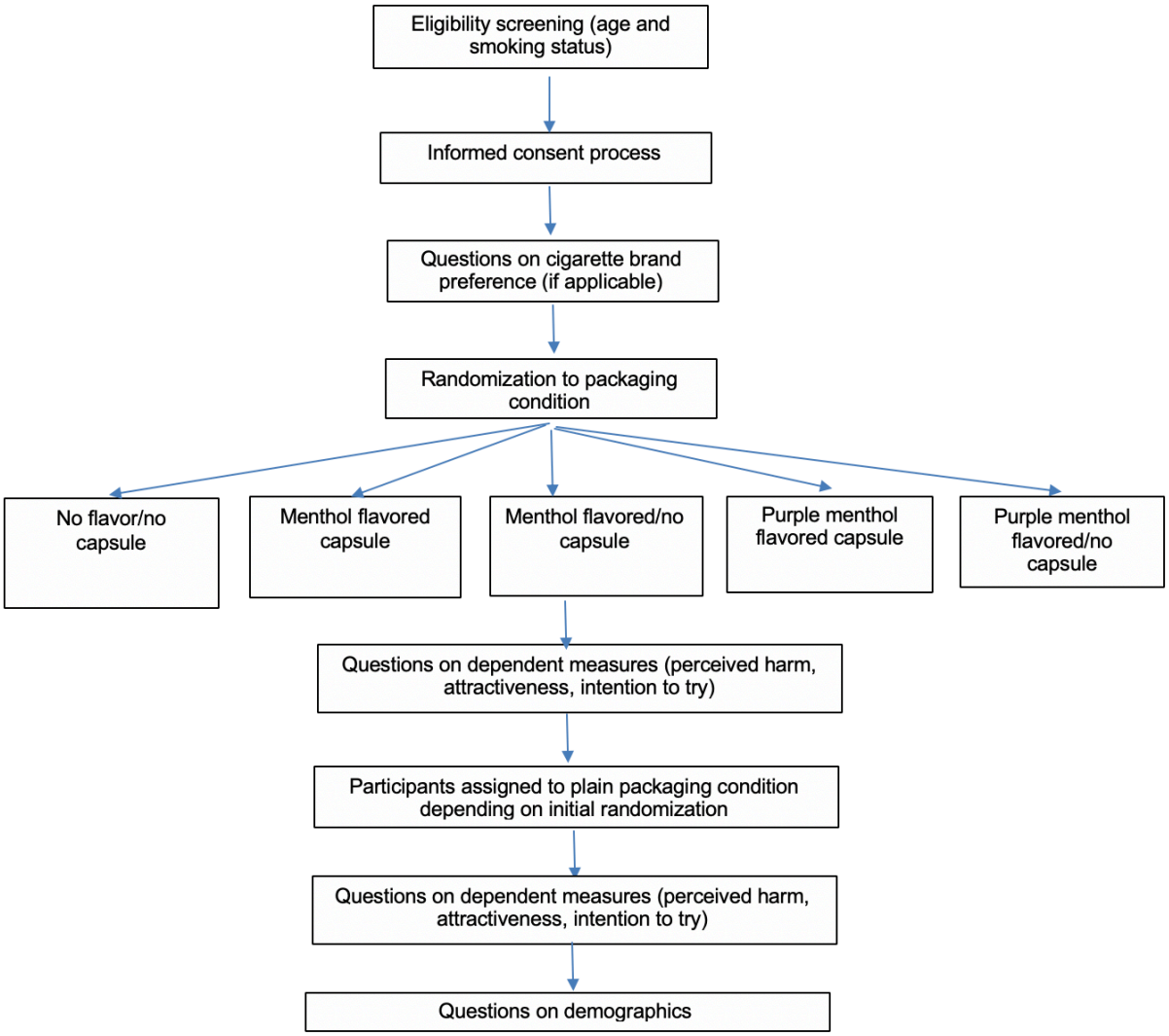
Data was collected on computer tablets. The questionnaires were populated using Snap Survey. The questionnaire was originally written in English and translated into Tagalog by a research team member fluent in English and Tagalog. Initial Tagalog translation was back translated into English by a second researcher fluent in English and Tagalog and we subsequently made small changes based on discrepancies between translated versions of the questionnaire. The survey questionnaire was piloted with a 15 members of the public who met eligibility criteria prior to the survey. Based on findings from the pilot, we made small changes the questionnaire to clarify

survey instructions. After participants are screened for eligibility and consent to participating in the survey, they answered questions on preferred cigarette brand (when applicable) and were randomized to view one of five images of cigarette packaging and then completed outcome measures. Participants then viewed an image of a second cigarette pack with the same brand and flavor text as the last image seen, but resembling plain packaging and completed outcome measures. Finally, participants answered questions on demographics. Figure 2.6 shows the flow of the survey process.

Data analysis

Data were analyzed using Stata 14. Chi-square tests were used to test whether participant characteristics were evenly distributed across experimental conditions. Chi-square tests were also used to examine differences in the proportion of participants reporting perceptions of less harm, pack as attractive, and intention to try across experimental conditions and key participant characteristics. Logistic regressions were used to assess the extent to which experimental condition and key participant characteristics affected the likelihood of perceiving the pack viewed as less harmful, attractive, and reporting intention to try. Finally, we grouped pack conditions by flavor and capsule inclusion and used chi-square tests to examine differences in the proportion of participants reporting perceptions of less harm, pack as attractive, and intention to try. The Benjamani-Hochberg procedure was used to determine significance across multiple comparisons.

Figure 2.6. Flow Chart for Survey Process



Validity

In order to ensure face and content validity, previously validated measures were used when they existed. Questions were kept simple and precise and efforts were made to avoid leading questions. The questionnaire was piloted and a discussion was held with participants to pinpoint areas of confusion or ambiguity. In cases where validated measures did not exist, content validity was ensured by discussing questions with experts in the field. Random assignment to view

packaging stimuli created groups that are equivalent with respect to known and unknown variables and controlled for threats to internal validity such as differential selection.

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CHAPTER 3 – MENTHOL AND FLAVOR CAPSULE CIGARETTES IN THE PHILIPPINES: A COMPARISON OF PACK DESIGN[1]

[1] Brown JL, Clegg Smith K, Zhu M, Moran MB, Hoe C, Cohen JE. Menthol and flavor capsule cigarettes in the Philippines: A comparison of pack design. *Tob Induc Dis*. 2019;17(November). doi:10.18332/tid/112718

ABSTRACT

Introduction Tobacco use is a major public health problem in the Philippines. Menthol flavored and flavor capsule cigarettes are independently associated with increased smoking initiation and appeal to youth and young adults. Packaging is an important tobacco marketing tool. We describe cigarette packs sold in the Philippines market and describe products' flavor and capsule inclusion.

Methods Tobacco packs were systematically collected in the Philippines in 2016 and categorized as non-flavored non-capsule, menthol non-capsule, menthol capsule, and non-menthol capsule. Structural elements (e.g. pack type, shape) and graphic components (e.g. imagery, descriptors, color) of the packs were compared.

Results Menthol capsule packs were significantly more likely to be hard packs than menthol non-capsule. Menthol packs were more likely to be colored green than non-flavored packs. Non-menthol capsule packs were more likely to display the term 'fresh' than non-capsule packs. Capsule packs were more likely to display technological appeals than non-capsule packs.

Conclusions Menthol and flavor capsule cigarettes are packaged differently (most notably, in terms of color and technological appeals) than non-menthol and non-capsule packs. Packaging and labeling policy should take this into consideration.

INTRODUCTION

Tobacco use is the world's leading cause of preventable death and the burden of the tobacco epidemic is increasingly falling on low- and middle-income countries.[1] Eighty percent of tobacco-caused deaths occur in low- and middle-income countries.[2] The Western Pacific region has historically been targeted by transnational tobacco companies.[3,4] In the Philippines, 22.7% of the adult population smokes (21.7% in urban areas and 23.2% in rural areas).[5]

21.5% of the population in the Philippines smoke manufactured cigarettes, significantly higher than the use of hand-rolled cigarettes (2.5%) or kreteks (0.4%).[5] The prevalence of smoking manufactured cigarettes in urban and rural areas does not vary significantly (21.3% and 21.7%, respectively).[5] The estimated market share for menthol cigarettes in the Philippines varies by source, but was estimated to be 50% in 2010 by Philip Morris and 22% in 2017 by Euromonitor.[6.7] The Philippines is one of the top five menthol markets in the world and even though world market share is going down, the menthol market in the Philippines is increasing.[7] In addition, flavor capsule cigarettes -- cigarettes that contain a liquid-filled capsule in the filter that can be crushed by the user to release a flavor -- have penetrated the cigarette market in the Philippines in recent years.[7,8] Monitoring of cigarettes on the market in the Philippines indicate that three flavor capsule variants (FCVs) that are owned by two brand companies (Philip Morris Fortune Tobacco Corp and Japan Tobacco International) were available on the market in 2013, but by 2016, 16 FCVs that are owned by four companies (Philip Morris Fortune Tobacco Corp, Japan Tobacco International, British American Tobacco, and KT&G) were on the market.[9] While market share for flavor capsule cigarettes is still relatively low in the Philippines (4.1%),[7] further market growth is expected.[7,10] Most flavor capsule cigarettes contain menthol, either as a menthol flavored cigarette with an added menthol capsule or as a non-flavored cigarette that contains a menthol flavored capsule and

that becomes menthol flavored when the capsule is crushed.[7] Less common, some flavor capsule cigarettes are fruit flavored or contain a non-characterizing flavor such as "purple" or "ruby" in addition to menthol flavoring.[9]

Menthol flavored tobacco products pose a unique threat to public health. Menthol flavoring can mask the harshness of smoking[7] and menthol cigarettes are smoked disproportionately by vulnerable populations,[11] are associated with increased smoking initiation,[12] increased likelihood of addiction[13] and decreased likelihood of staying quit.[14] Research in high-income countries has found that some people, albeit a small percentage, still believe that menthol cigarettes are less harmful than non-menthol cigarettes.[15] One study conducted in two upper-middle income countries found that in Malaysia, 16% of participants agreed that menthol cigarettes are less harmful than non-menthol cigarettes, and in Thailand, 35% of participants agreed with this statement.[16] While limited research has been conducted on perceptions of flavor capsule cigarettes, early research has found that among youth, flavor capsule cigarettes are perceived as less harmful and are associated with greater attractiveness and interest in trying.[17-19] Young adults also have positive perceptions of flavor capsule cigarettes.[20,21] Adult smokers in the UK have reported using them because of the taste, smoothness, choice of flavors, and enjoyment associated with bursting the capsule.[22]

Importance of Packaging as a Marketing Tool

Packaging is a key marketing strategy. Some consider packaging to be the most important way that a marketer communicates with a potential consumer because it is present at the time the purchase is being made, and consumers may therefore interact with the packaging during purchase and use, and may look to the package for information on the product.[23] For cigarettes, packaging has also become more important over time as advertising becomes restricted via media such as

television and radio.[22,24] In the Philippines, the Tobacco Regulation Act of 2003 bans tobacco advertising on domestic TV and radio, in domestic newspapers and magazines, as well as outdoors. The law, however, does allow tobacco advertising and promotion at the point-of-sale.

The cigarette package has been described by marketers as a "badge product", meaning that cigarette companies use product design characteristics to get users to identify with the brand image, thus increasing brand loyalty.[22] Unlike some products where the packaging is discarded after opening, cigarettes are usually kept in their package until they are all smoked. The pack may be on display (such as out on a table) during the act of smoking, as well as beyond.[22] It is estimated that pack-a-day smokers may view packaging from the cigarettes that they consume up to 7,000 times a year.[26] Consumers, including non-smokers, are also exposed to cigarette displays at point-of-sale, in which cigarette packs can communicate information about a product to a wide audience.

Packaging is also used to differentiate between different brands and different cigarette products and plays a key role in influencing consumer decisions. Elements of the packaging, such as pack shape, opening, material, color, imagery, and descriptors work in concert to communicate product characteristics to consumers.[22] Packaging effects are so strong that research shows consumer perceptions of cigarettes are altered based on packaging independent of the product the packaging contains.[22]

Marketing of Menthol and Flavor Capsule Cigarettes

The tobacco industry has historically targeted youth and minorities with menthol cigarette advertisements.[27] There is no research available on the marketing of menthol cigarettes in the Philippines specifically, but research on the US menthol market exists that may provide important insights. In the United States, marketing of menthol cigarettes using health reassurance messages was common until the mid-1900s. Following the 1950s, the tobacco industry shifted their message

from focusing on health messages to focus on the "refreshing" taste of menthol cigarettes and creating associations between menthol cigarettes and group identity, youthfulness, and fun.[28,29] While extensive research has been done on tobacco packaging design in general, there is no research specifically examining the differences between packaging of menthol and non-menthol cigarettes. Tobacco industry documents describe findings from the industry's consumer perception studies that conclude that smokers prefer and associate green colored packaging with menthol cigarettes.[30]

No studies focused on the messages used to market flavor capsule cigarettes have been published to date. Market research reports and observations do, however, provide some insight. Early market research by tobacco companies on flavor capsule cigarettes found that consumers like the control they have over the flavor of the cigarette and getting to decide when they crush the capsule, as well as the sensations of feeling and hearing the capsule pop.[31] Therefore, advertising themes for flavor capsule cigarettes have included an emphasis on freshness and the option users have to customize their cigarette by having the choice to decide when to change the taste of the cigarette.[8] Slogans like "Click. Switch. Refresh." and "Squeeze, Click, Change!" have been used to promote flavor capsule cigarettes.[8] Many flavor capsule cigarette brands suggest menthol or mint flavoring through descriptors such as "fresh", "ice", "frost", "crisp", "cold" and "blast".[7] Technology is generally used as a selling point in innovation and used to market flavor capsule cigarettes as well.[7] Flavor capsule advertising has also been described as "colorful, dynamic, and innovative".[8]

Objectives

Given how integral packaging is to marketing, it is important to understand how menthol and non-menthol cigarettes are presented via packaging. It is also important to differentiate

between flavor capsule and non-flavor capsule packs as many flavor capsule packs contain menthol and are rising in popularity.[7,10] Elucidating the differences in packaging design between different categories of packs will help us understand the differences in how packs are marketed by the tobacco industry and subsequently, allow for exploration of the aspects of the packaging design that appeal to certain groups of consumers and influence consumer perceptions of these particular products. This will contribute to addressing consumer misperceptions and counter tobacco industry marketing tactics that attract new smokers.

The aim of our research is to compare and describe the similarities and differences in packaging components being used between capsule and non-capsule cigarette packs of varied flavors that are on the market in the Philippines. Specifically, we assessed: (1) the structural components (pack type, opening style, shape) that are used to package cigarettes; (2) the graphic components (color, imagery, descriptors) that are used on cigarette packaging; and, (3) whether there are differences and/or similarities between packaging that varies by flavor and capsule presence with respect to structural and graphic components.

METHODS

Design

We conducted a quantitative content analysis of cigarette packs purchased in the Philippines via the Tobacco Pack Surveillance System (TPackSS), Wave II data collection (November 2016). TPackSS is a surveillance study that aims to construct a sample of tobacco packaging in several low- and middle-income countries, including the Philippines, that is representative of the cigarette packaging available on the market at time of data collection.[32] Constructing the sample was done with the goal of maximizing diversity in terms of the cigarette

packages collected. The TPackSS data collection protocol is publicly available at: http://globaltobaccocontrol.org/tpackss/resources.

In the Philippines, data were collected from the most populous metropolitan area in the country, Metro Manila, and two of the remaining ten most populated cities in the country, Cebu and Davao. These cities were chosen based on population size, as well as geographical and cultural diversity. Within each city, twelve barangays (the smallest political unit into which cities and municipalities are divided) were selected for sampling. Local partners in the Philippines constructed a sampling frame of barangays and classified them as low, middle, or high socioeconomic status based on income and property tax information. In each city, four barangays each from the low, middle, and high socioeconomic strata were selected purposively based on diverse geographical and residential composition.

Within each barangay, tobacco vendors were then sampled. The types of vendors sampled from were selected based on information from the Philippines Global Adult Tobacco Survey and Euromonitor country level data. Four types of tobacco vendors were purposively selected based on consumer purchasing and product distribution ranking among vendor types in the country. In the Philippines, the vendors selected were sari sari shops (small, locally owned neighborhood stores that sell a limited selection of groceries, home goods, snacks and cigarettes), mall kiosks, convenience stores, and supermarkets. In each barangay, a hub (a transit center, major shopping center, or source of commerce) was selected where data collectors would start. Data collectors then used vendor selection information and a walking protocol to navigate to the first vendor. At the first vendor in the first barangay visited in the first city, data collectors purchased one of every unique cigarette pack available for sale. Unique cigarette packs were defined as any pack with at least one difference in an exterior feature of the pack, excluding health warning label and including

but not limited to: stick count, size, brand name presentation, color, cellophane, packaging material (i.e. hard, soft, tin), and inclusion of a promotional item. In the subsequent barangays visited, one of every unique cigarette pack that was not already purchased at a previous vendor was purchased. If the selected vendor in a specific barangay did not have any new unique packs, data collectors visited up to three additional vendors in the barangay to find unique tobacco packs before proceeding to the next barangay. Data collectors kept track of the unique tobacco packs that had already been collected by taking pictures of the packs purchased and organizing them into brand folders on an iPad for easy cross-referencing.

Coding

A codebook was developed based on the literature on cigarette marketing, branding, and audience segmentation and existing coding systems for tobacco packaging. Structural elements coded for included features of packaging such as type (e.g. hard, soft, sachet), shape, size, and opening style. Graphic components coded for included color, imagery, and descriptors. Imagery and descriptors were organized by the qualities or messages they connote, such as luxury, less harm, or femininity. The codebook used is publicly available at https://www.globaltobaccocontrol.org/tpackss/sites/default/files/Tobacco%20Packaging%20Features%20and%20Marketing%20Appeals%20Codebook%202017.pdf. The definitions for all cigarette classifications, structural elements, and graphic components are found in Table 3.1. All sides of the cigarette package were considered during coding (as well as the larger package if the pack was contained within any additional packaging), any cellophane wrapping, the inside of the packaging, packaging inserts, and the cigarette sticks.

Packs were double coded by two trained research assistants. Intercoder reliability was assessed using percent agreement and the prevalence-adjusted and bias-adjusted kappa statistic

(PABAK). When results for all variables were averaged, we found a total percent observed agreement of 98.7% (95% CI 96.82 – 99.91%) and a PABAK of 0.973 (95% CI 0.936 – 0.998). These statistics indicate near perfect agreement. Discrepancies were reviewed and resolved by a third trained coder.

Sample

The sample of packs included in this study was limited to legal cigarettes displaying a Philippines health warning label in rotation at the time of data collection. A total of 158 packs were collected in the Philippines – 40 were excluded for being duplicate packs, 11 were excluded for being promotional items or roll-your-own cigarettes, two packs were excluded for being illicit, and 30 packs were excluded because they displayed a previously rotated health warning. 75 cigarette packs fit the inclusion criteria.

The 75 packs were manufactured by the followed brand owners: Associated Anglo American Tobacco Corporation (n=2), British American Tobacco (n=5), Japan Tobacco International (n=14), Kenstand Philippines Inc. (n=2), Korean Tobacco and Ginseng Corporation (n=6), Mighty Corporation (n=14), and Philip Morris International Inc. (n=32).

Data Analysis

Data analyses were conducted using Stata 14. Descriptive statistics were estimated and packs were categorized into four groups based on cigarette flavor and flavor capsule presence: (1) non-flavored non-capsule; (2) menthol non-capsule; (3) menthol capsule; and, (4) non-menthol capsule (refer to Table 3.1 for definitions). The structural elements and graphic components of the cigarette packaging were assessed by packaging category using the Fisher's exact test. If the differences in the proportions were significant according to the Fisher's exact test, pairwise

comparisons were used to compare individual groups to one another and the Bonferroni correction was applied to adjust for multiple comparisons.

Table 3.1. Definitions of Key Variables

Variable	Definition
Non-flavored	No indication that pack is flavored and no distinguishable flavor/taste/aroma other than tobacco is displayed on cigarette pack or stick
Menthol flavor	"Menthol" or "mint" appears as a descriptor on the cigarette pack or cigarette stick; includes flavors such as "purple menthol"
Non-menthol flavor	A characterizing flavor descriptor, other than "menthol" or "mint", displayed as a descriptor on the cigarette pack or stick. Included, but not limited to caramel/vanilla/chocolate, cinnamon/"canella" or other spice, clove/kretek, fruit or citrus, coffee, alcoholic beverage, energy drink OR an indication that cigarette is flavored, but no distinguishable flavor/taste/aroma (other than tobacco) is displayed on cigarette pack or stick
Flavor capsule pack	Pack that indicates in any way that the user is able to change the stick flavor (e.g. convertibles, click and roll, activate freshness)
Traditional pack	Rectangular pack with a width to height ratio of 2 to 3
Slim pack	Pack with a side width of 1.3 cm or less
Hard pack	Pack with defined shape often constructed out of paper cardboard, which will hold its shape when sticks are removed, regardless of original shape
Soft pack	Pack with malleable shape made of paper or cardboard with exposed foil or paper
Principal color[1]	The dominant color on which other items are printed and/or a prominent color at first sight of the pack; up to two principal colors were identified per pack
Feminine appeal	Includes descriptors such as flower terminology (roses, daisies, etc.), fashion terms, synonyms for "slim" (slender, skinny, etc.), terms for women such as "lady" or "girl", "pink" and/or images of items such as flowers/butterflies, fashion-related items, pink color, and a non-sexualized female form
Less harm descriptors	Includes the descriptors, "light(s)", "mild", "low", "safe(r)", "smooth", "soft", "mellow" and/or any qualitative description of the levels of nicotine, tar, or carbon monoxide, numbers potentially indicating strength, and any mention or long life or good health
Technological appeal	Includes descriptors, "technology", "less odor", "odor reducing", "less smoke smell", "RELOC", "resealable", "adhesive", "Pro Fresh" and descriptors referring to a secondary technology (nano, high-definition, HD, system), terms referring to turning something off or on (switch, activate, click, press to refresh), terms indicating innovation (new, new generation, innovative, modern, advanced, progressive) and/or imagery such as power buttons, play buttons, skip track buttons, a ball illustration representing change in flavor (excluding buttons), and a stick filter

[1] The coders were given the following instructions: "First, select the background color of the primary package, i.e. the dominant color upon which other items are printed. Next, select a second color. Excluding the background color and the color of the brand name text, what is the one other main prominent color (if any)? If there is no other main color, select "no other main color." The second color should be the other prominent and obvious color at first sight of the pack." For the colors reported, percent agreement between two coders ranged from 90.6% - 100%.

RESULTS

Of the 75 cigarette packs, 36 (48.7%) were non-flavored with no capsule, 23 (30.3%) were menthol flavored with no capsule, 10 (13.1%) were menthol with one or more capsules, and six (7.9%) were a non-menthol flavor with one or more capsule. Of the six non-menthol packs, four indicated that they included flavoring but did not display a characterizing flavor, one was "ice coffee flavor" with a "lime" capsule, and one was "orange coffee flavor" with an "orange" capsule. See Figure 3.1 for examples of packs grouped by flavor and flavor capsule inclusion.

Structural Elements

Overall, the groups of packs did not vary much in regard to structural elements (Table 3.2). All packs across all categories were traditionally shaped (rectangular pack with width to height ratio of 2 to 3). Five packs (6.6%) were slim packs, however there was no significant difference in the proportion of slim packs across pack groups. Overall, 54 packs (72.0%) were hard and 21 packs (28.0%) were soft. A significantly greater proportion of menthol capsule packs (n=10; 100%) were hard than were menthol non-capsule packs (n=11; 47.8%) (p=0.005).

Graphic Components

Groups of packs varied significantly by a number of graphic components including color, the use of the descriptor "fresh", and technology appeal (Table 3.3, Figure 3.2).

Color

A total of 30 packs displayed green as a principal color on the pack and/or displayed the descriptor "green". A significantly greater proportion of menthol non-capsule packs (n=21; 91.3%) and menthol capsule packs (n=6, 60%) displayed green as a principal color or as a descriptor than

non-flavored non-capsule packs (n=1; 2.8%) ($p<0.001$ for both comparisons). A total of 18 packs displayed blue as a principal color on the pack and/or displayed the descriptor "blue" – nine

Figure 3.1. Examples of Groups of Packs by Flavor and Capsule Presence

(25.0%) non-flavored non-capsule packs, two (8.7%) menthol non-capsule packs, five (50%) menthol capsule packs, and two (33.3%) non-menthol capsule packs. There were no significant differences in the proportion of packs displaying blue as a principal color or as a descriptor across groups. Two packs displayed purple as a principal color on the pack and/or displayed the descriptor "purple" or a specific shade of the color purple; both packs were menthol capsule packs (33.3%).

Less harm descriptors

Two packs displayed descriptors that indicate less harm (e.g. light, mild, low, safe, smooth, soft, mellow), one non-flavored non-capsule pack (2.8%) and one menthol non-capsule pack (4.3%). In one pack, the cigarette stick displayed the descriptor "mild" and one pack displayed the term, "smooth taste".

Taste or sensation descriptors

Eight packs displayed the descriptor "taste" on the pack – three (8.3%) non-flavored non-capsule packs, one (4.3%) menthol non-capsule pack, two (20%) menthol capsule packs, and two (33.3%) non-menthol capsule packs. Four packs displayed the descriptors "fresh", "freshness" and/or "refresh". A significantly greater proportion of non-menthol capsule packs (n=3; 50%) displayed "fresh", "freshness", and/or "refresh" compared to non-flavored non-capsule packs and menthol non-capsule packs (n=0 for both groups; p=0.002 and p=0.005, respectively). Five packs displayed the descriptors "cool", "ice", "cold", "chill" and/or "frost" – one (4.3%) menthol non-capsule pack, three (30.0%) menthol capsule packs, and one (16.7%) non-menthol capsule pack. One (16.7%) non-menthol capsule pack displayed the descriptors "pleasure", "satisfaction", "enjoyment" and/or "relaxing". A total of three packs displayed the descriptor "sensation" – one (4.3%) menthol non-capsule pack and two (20.0%) menthol capsule packs.

Feminine appeal

No packs were identified as having a specific feminine appeal.

Technological appeal

20 packs (26.3%) displayed technology descriptors or imagery. A significantly greater proportion of menthol capsule packs (n=10; 100%) and non-menthol capsule packs (n=6; 100%) displayed technology descriptors or imagery than non-flavored non-capsule packs (n=3; 8.1%) and menthol non-capsule packs (n=1; 4.3%) (<0.001 for all comparisons).

Table 3.2. Structural Elements of Cigarette Packaging by Packaging Category, as Distinguished by Flavor and Flavor Capsule Presence

	Group 1: Non-flavored non-capsule (n=36)	Group 2: Menthol non-capsule (n=23)	Group 3: Menthol capsule (n=10)	Group 4: Non-menthol capsule (n=6)	Groups 1 vs 2	Groups 1 vs 3	Groups 1 vs 4	Groups 2 vs 3	Groups 2 vs 4	Groups 3 vs 4
	n (%)	n (%)	n (%)	n (%)	p-value	p-value	p-value	p-value	p-value	p-value
Pack type[a]					0.051	0.172	0.312	**0.005***	0.028	-
Hard	27 (75)	11 (47.8)	10 (100)	6 (100)	n/a	n/a	n/a	n/a	n/a	n/a
Soft	9 (25.0)	12 (52.2)	0 (0)	0 (0)	n/a	n/a	n/a	n/a	n/a	n/a
Traditional shape	36 (100)	23 (100)	10 (100)	6 (100)	-	-	-	-	-	-
Slim pack	2 (5.6)	1 (4.3)	0 (0)	2 (33.3)	1.000	1.000	0.091	1.000	0.100	0.125

* $p<0.008$; a critical value of 0.008 was used to assess whether any pairwise comparison was considered statistically significant in order to account for multiple comparisons and control the family-wise error rate

[a] For pack type, a test of the two-way table was conducted

note: a dash indicates no difference between groups

Table 3.3. Graphic Components of Cigarette Packaging by Packaging Category, as Distinguished by Flavor and Flavor Capsule Presence

	Group 1: Non-flavored non-capsule (n=37)	Group 2: Menthol non-capsule (n=23)	Group 3: Menthol capsule (n=10)	Group 4: Non-menthol capsule (n=6)	Groups 1 vs 2	Groups 1 vs 3	Groups 1 vs 4	Groups 2 vs 3	Groups 2 vs 4	Groups 3 vs 4
	n (%)	n (%)	n (%)	n (%)	p-value	p-value	p-value	p-value	p-value	p-value
Green as principal color and/or descriptor	1 (2.8)	21 (91.3)	6 (60)	2 (33.3)	**<0.001***	**<0.001***	0.049	0.053	0.008	0.608
Blue as principal color and/or descriptor	9 (25.0)	2 (8.7)	5 (50)	2 (33.3)	0.174	0.242	0.644	0.016	0.180	0.633
Purple as principal color and/or descriptor	0 (0)	0 (0)	2 (20)	0 (0)	-	0.043	-	0.085	-	0.500
Feminine appeal	0 (0)	0 (0)	0 (0)	0 (0)	-	-	-	-	-	-
Less harm descriptors	1 (2.8)	1 (4.3)	0 (0)	0 (0)	1.000	1.000	1.000	1.000	1.000	-
"Taste"	3 (8.3)	1 (4.3)	2 (20)	2 (33.3)	1.000	0.295	0.141	0.212	0.100	0.604
"Fresh, freshness, refresh"	0 (0)	0 (0)	1 (10)	3 (50)	-	0.217	**0.002***	0.303	**0.005***	0.118
"Cool, ice, cold, chill, frost"	0 (0)	1 (4.3)	3 (30)	1 (16.7)	0.390	0.008	0.143	0.073	0.377	1.000

"Pleasure, satisfaction, enjoyment, relaxing"	0 (0)	0 (0)	0 (0)	1 (16.7)	-	-	0.143	-	0.207	0.375
"Sensation"	0 (0)	1 (4.3)	2 (20)	0 (0)	0.390	0.043	-	0.212	1.000	0.500
Technology descriptors or imagery	3 (8.3)	1 (4.3)	10 (100)	6 (100)	1.000	**<0.001***	**<0.001***	**<0.001***	**<0.001***	-

* $p<0.008$; a critical value of 0.008 was used to assess whether any pairwise comparison was considered statistically significant in order to account for multiple comparisons and control the family-wise error rate
note: a dash indicates no difference between groups

Figure 3.2. Examples of Graphic Components

Green menthol non-capsule (L) and menthol capsule (R) packs
Front panels shown

Non-menthol capsule packs displaying "fresh"
Back panels shown (tax stamps visible)

Menthol capsule packs displaying technology appeals
Front panels shown

DISCUSSION

Our findings demonstrate that different structural elements and graphic components are used on cigarette packaging to distinguish cigarettes, with menthol and flavor capsules, in the Philippines. The use of hard packs to store flavor capsule packs is not reported elsewhere, but is not surprising given that hard packs offer better protection to cigarettes than a soft pack, resulting in a lower chance that the capsules in cigarettes will be crushed before the user decides to do so. Additionally, hard packs connote quality by communicating prestige and expense; tobacco industry documents reveal that hard packs are preferred by females and that they are perceived by consumers to contain less harsh cigarettes than soft packs.[25] The use of green packaging to market menthol cigarettes support tobacco industry conclusions that users associate green coloring with menthol cigarettes.[36] The use of the descriptor "fresh" or similar descriptors to suggest menthol or mint flavoring is in line with other observations of flavor capsule cigarettes.[7] While "fresh" and similar descriptors have been associated with menthol flavoring, it is important to note that in our sample the descriptor was paired with the descriptor "menthol" on only one pack and on the remaining three packs, printed on packs that did not name a characterizing flavor. It is likely that these three packs are menthol flavored, but this would have be confirmed through analysis of the cigarette ingredients. The use of descriptors such as "cold", "ice", "chill" and "frost" on menthol and flavor capsule packaging also supports what has been observed on menthol flavor capsule packaging.[7] "Ice" was prominently used on Marlboro menthol capsule packs in our sample. The finding that no packs were identified as having a specific feminine appeal is notable given that the tobacco industry has been known to target females through marketing. This may be a reflection of the disparities in smoking prevalence among males and females in the Philippines where 41.9% of the adult male population smokes and 5.8% of the female adult population smokes.[5] It may also

be that our coding framework is not sufficiently sensitive or culturally tailored to detect feminine appeal of packs sold in the Philippines.

The use of technological appeals on flavor capsule packaging, regardless of flavor, was ubiquitous. Flavor capsule packs commonly displayed button images similar to "play" buttons or "fast forward" buttons used on electronic devices; illustrations of the flavor capsule itself, sometimes featured with an illustration of how it is situated inside the filter; and phrases such as "switch" and "activate". The use of these technological descriptors and imagery could be used to communicate innovation to consumers. Innovation is recognized by the tobacco industry as a key element to product growth and a strategy for maintaining positive consumer perceptions of brands.[7] Innovation in tobacco products serves three purposes: (1) justifies a higher price; (2) provides a different experience to the customer; and, (3) suggests less risk.[33] It is plausible that the industry is using various technology descriptors and imagery to communicate the innovation of flavor capsules. Given that the youth and young adult populations are particularly technology savvy, we hypothesize that these appeals may partially explain some previous findings that conclude flavor capsule cigarettes are attractive to youth and associated with interest in trying.[29] We hypothesize that these findings may also extend to young adults.

While we did not distinguish between number of flavor capsules in each cigarette in our analysis, we observed two packs with cigarettes that contained two flavor capsules. These packs were categorized as menthol capsule packs in our analysis. Mevius Option Duo contained two menthol capsules described as "high menthol" and "flavored menthol". Marlboro Ruby Burst instructs the user to "crush the purple capsule for a burst of flavor" and to "crush the green capsule for a boost in menthol taste". In other countries, packs with up to four capsules in each cigarette have been observed.[34] It may be that the tobacco industry is using multiple capsules to give

consumers more flavor options in response to their positive reaction to being able to customize the product, as well as pique curiosity among consumers with such unique offerings.

Structural elements and graphic components of cigarette packaging are used to create associations between the product and product characteristics in the mind of the consumer. Prior research has shown how the color green and descriptor "green" have been used to convey menthol flavoring following a ban on menthol flavoring in Canada[35] and how descriptors such as "smooth" and "fine" and colors such as white and gold have been used to connote a less harmful product following bans on misleading descriptors such as "light", "mild" and "low".[36,37] Given our findings and what has been written previously on the marketing of menthol cigarettes, descriptors such as "fresh" and "ice", which are likely being used by the industry to communicate menthol flavoring, could potentially hinder tobacco control efforts by conveying flavor and by making it easy for the consumer to identify their original brand in the case that flavors or specific descriptors are banned.

There are several strengths and limitations to this study. To our knowledge, this is the first study to describe the differences in packaging between menthol and non-menthol cigarettes in any country. We also collected data in geographically and culturally diverse urban areas of the Philippines. However, because packs were exclusively gathered in highly populated cities in the Philippines, it is possible that our collection does not include some packs that are primarily sold in rural areas of the country, potentially biasing the sample. Limitations also include the age of our sample – it is likely that new packaging has been introduced to the market since late 2016. We can confirm that one change to the market is British American Tobacco's withdrawal from the Philippines market at the end of 2017.[7] It is also possible that our coding scheme did not capture all components that might appeal to certain demographics - for example, slim packs are found to

appeal to females[25] and it is possible that purple might appeal to females. However this was not captured under our definition of feminine appeal. Additionally, we are not able to confirm the meaning of structural elements and graphic components to consumers in the Philippines as this study did not include an assessment of consumer perceptions.

These findings highlight the need for a greater awareness of the ability of cigarette packaging to convey product characteristics to consumers, some that may be misleading or that are attractive to a new generation of smokers. By highlighting the key packaging components that distinguish varieties of cigarettes, we can identify the specific marketing elements that influence consumer perceptions in future research. Indeed, our current research explores consumer perceptions of cigarettes that vary by structural elements and graphic components and assesses whether different cigarette packs distinguished by flavor and capsule inclusion are associated with attractiveness, less harm and intention to try menthol and flavor capsule cigarettes among young adults in the Philippines. Additionally, identifying packaging components that are used by the tobacco industry to denote a flavor or characteristic of a cigarette and can be used by consumers to identify their regular cigarette even after bans on flavors or specific descriptors (as has occurred in jurisdictions with bans on flavors and misleading descriptors)[35,36] can strengthen the call for plain packaging. The market share for capsule cigarettes increased between 2014 and 2017 in 57 of the 67 countries where they are sold and in 2017, were the fastest growing segment in combustible tobacco.[10] The findings from this study will inform public health interventions the Philippines and in the 66 other countries in which flavor capsule cigarettes are sold, as well as in jurisdictions that are considering policies to address flavored tobacco.

CONCLUSIONS

This study identifies structural elements and graphic components that are used on cigarette packaging to convey flavor and presence of flavor capsules. Further research should monitor the sale of flavor capsule cigarettes and use of flavors to attract new smokers globally. Findings can inform future tobacco control policy as the Philippines and other countries consider bans on flavored tobacco, displays at point-of-sale, and adoption of plain tobacco packaging.

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CHAPTER 4 – "IT HAS CANDY: YOU NEED TO PRESS ON IT.": YOUNG ADULTS' PERCEPTIONS OF FLAVORED CIGARETTES IN THE PHILIPPINES

ABSTRACT

Introduction The Philippines has a high smoking prevalence and one of the largest tobacco menthol market shares in the world. Flavor capsule cigarettes were introduced to the Philippines in 2013, most of which are menthol flavored, and their market share is increasing. We explored perceptions of flavored cigarette packaging among young adult Filipinos.

Methods We conducted eight focus groups with 63 young adults ages 18 – 24 years in Manila in 2019, stratified by gender and smoking status. We conducted a thematic analysis of the transcripts.

Results Most participants assessed relative harm of cigarettes based on strength, mainly determined by color of the packaging. Menthol cigarettes with primarily blue packaging were considered less harmful than menthol cigarettes with primarily green packaging. Many participants considered flavor capsule packs most attractive, compared to non-flavored and traditional menthol cigarettes, due to the coloring of the packs and expectations regarding taste. Some participants likened the capsules and the taste of flavor capsule cigarettes to candy and many participants thought flavor capsule cigarettes would most likely be smoked by teenagers or young adults.

Conclusions Young adult Filipinos believe that some menthol-flavored cigarettes are less harmful than other flavored cigarettes and non-flavored cigarettes, as well as find flavor capsule cigarettes attractive. A tobacco flavor ban and implementation of plain packaging might help reduce misperceptions of harm and make cigarettes less appealing.

INTRODUCTION

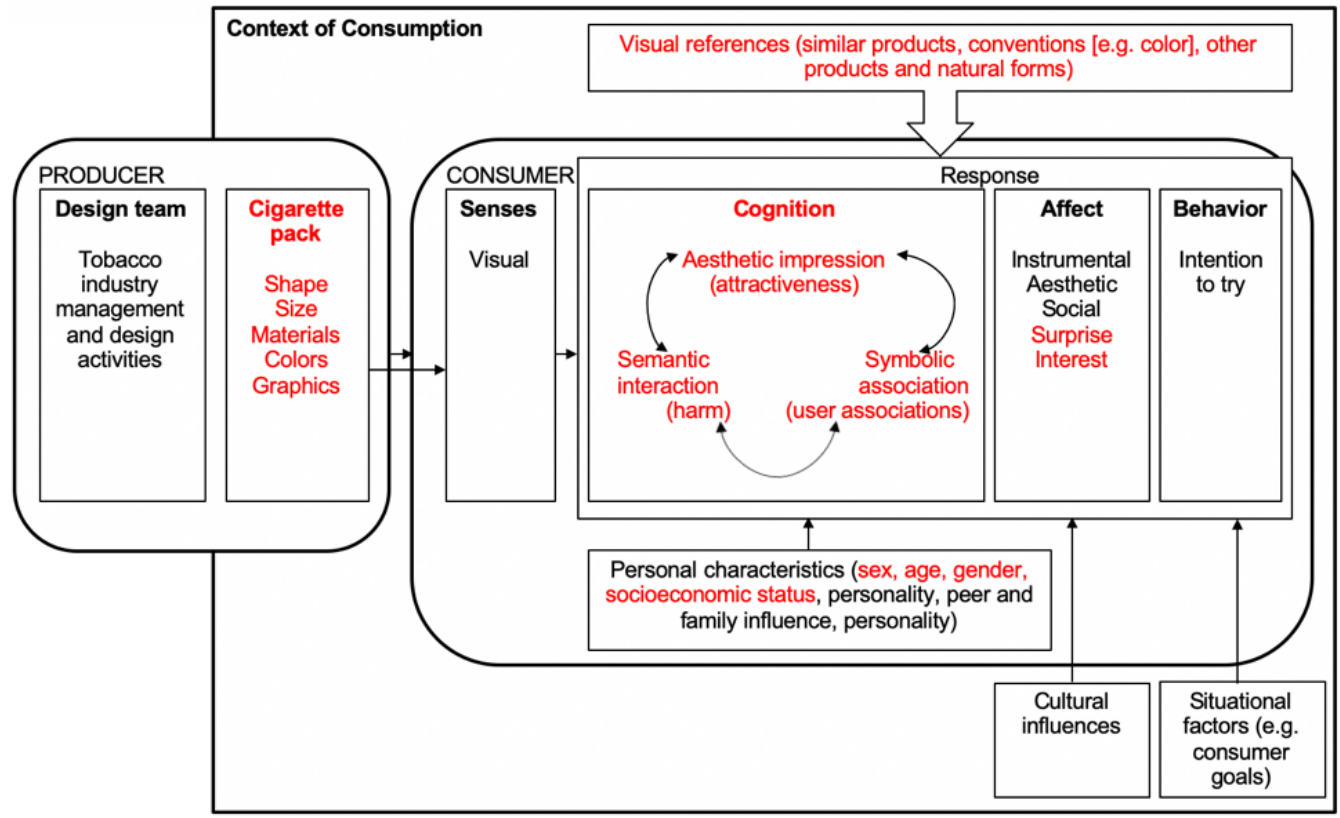
The Philippines has an adult smoking prevalence of 22.7%,[1] and one of the largest menthol market shares in the world.[2,3] The menthol cigarette market share in the Philippines continues to grow, increasing from 21.7% in 2014 to 22.4% in 2018.[3] This is problematic given that menthol cigarettes mask the harshness of smoking[4,5] and are associated with increased smoking initiation.[6] Some consumers believe that menthol cigarettes are less harmful than other cigarettes.[7] Flavor capsule cigarettes were introduced to the tobacco market in 2007[8] and sold in the Philippines as early as 2013[9] – their Philippines market share is growing, increasing from 2.5% in 2014 to 4.2% in 2018.[3] Most flavor capsule cigarettes are menthol flavored.[10,11] Japan was the birthplace of flavor capsule cigarettes and South Korea has the world's sixth largest flavor capsule market share, as well as recently introduced flavor capsule heat sticks – both of these countries export to the Philippines.[8,11,12] Early research on flavor capsule cigarettes finds that youth and young adults them more attractive and less harmful compared to non-flavored cigarettes, as well as express an interest in trying them.[13-17] Research on consumer perceptions of menthol and flavor capsule cigarettes has largely been focused on high-income countries with the exception of research conducted on flavor capsule cigarettes in Mexico.[13,14] Given Philippines' significant menthol tobacco market share and the potential for flavor capsule cigarettes to contribute to further growth, it is important to understand consumer perceptions of menthol and flavor capsule cigarettes in this lower middle income country.

Cigarette packaging is an important marketing tool for the tobacco industry and in the Philippines has become increasingly important due to the strict regulations imposed on tobacco advertising. Advertising in the Philippines is currently limited to point-of-sale.[18] Packaging design is used by companies to influence consumer perceptions of the product. Tobacco packaging

characteristics such as size, opening style, color, and descriptors influence consumer perceptions of appeal and harm and expectations of strength and taste.[19-22] Some U.S. adult smokers choose to use flavor capsule cigarettes based on the design of the pack.[23] Our work was guided by the Context of Consumption Framework and literature on tobacco packaging. We used packaging as our visual stimuli and focused on consumers' perceptions of attractiveness and harm.

The Context of Consumption Framework is a theory-informed framework created by design scholars that focuses on consumer response to visual information.[24] Tobacco control researchers recently adapted the framework to understand how visual changes to the cigarette pack impact consumer perceptions and found that the framework is consistent with how adult smokers in the United States talk about the visual design of cigarette packaging.[25] Figure 4.1 shows our adapted version of the framework and highlights the constructs that were most relevant to our study. The cigarette pack is defined by characteristics such as shape, size, materials (e.g. soft vs. hard pack), color, and graphics. The Framework categorizes consumer response into dimensions – 1) cognitive, 2) affective, and 3) behavioral.[24] Regarding cognitive response, judgments based on the visual information perceived by the consumer, we focused on perceptions of harm, attractiveness, and user associations (i.e. what the cigarette pack communicates about the person who uses it).[24] In relation to affective response, emotion-driven responses, we assessed user interest in the product and surprise (i.e. whether the pack is perceived as novel to a consumer).[24] The Context of Consumption Framework also recognizes how consumer perceptions are impacted by personal characteristics such as sex, age, gender, and socioeconomic status and visual references, such as other consumer products, color conventions, and nature.[24] The aim of the present study was to explore young adult Filipinos' perceptions of flavored cigarettes, including

Figure 4.1. Adapted Context of Consumption Framework



menthol and flavor capsule cigarettes, and how they interpret commonly used descriptors and imagery on flavored cigarette packaging.

METHODS

Design and Sample

Eight focus groups of 7 - 8 participants each, totaling 63 participants, were conducted with 18 - 24 year old young adults in Metro Manila, Philippines in March 2019. Participants were recruited by a Manila-based market research company via household recruitment in randomly selected barangays stratified by income level in Metro Manila. Focus groups were stratified by gender (32 males and 31 females) and smoking status (31 smokers and 32 non-smokers), given

that the average age of initiation for smoking in the Philippines is 18 years[1] (Table 4.1). Smokers were defined as those who smoked every day or some days and had smoked at least 100 cigarettes in their lifetime. Eligibility criteria included being 18 – 24 years old, residing in the Philippines, and being able to read and speak Tagalog.

Table 4.1. Focus Group Participant Characteristics (N=63)

Group	n	Gender	Smoking status
FG-1	7	Female	Smoker (S)
FG-2	8	Female	Smoker (S)
FG-3	8	Female	Non-smoker (NS)
FG-4	8	Female	Non-smoker (NS)
FG-5	8	Male	Smoker (S)
FG-6	8	Male	Smoker (S)
FG-7	8	Male	Non-smoker (NS)
FG-8	8	Male	Non-smoker (NS)

Procedures

Focus group discussions took place at the office of the aforementioned market research company located in Metro Manila. All discussions were facilitated in Tagalog by a female Manila-based researcher fluent in Tagalog and English who has nine years' experience in qualitative research and was previously unknown to participants. A notetaker was also present. A translator observed the discussions from a second room and translated the discussion into English for the student investigator. Participants provided consent at time of recruitment, and before discussions began were reminded of the study procedures, their right to withdraw from the study, and confidentiality.

Focus groups discussions were guided by a semi-structured interview guide. The guide was pilot tested with a small group of market research agency employees who were not familiar with the project. Participants viewed 26 cigarette packs (Figure 4.2) during the discussion. The cigarette packs shown were legally purchased in Manila in March 2019 and varied by brand, flavor, and

size. All packs displayed a Philippines pictorial health warning label that covered 50% of the pack, as mandated by law. Following a warm up activity, participants completed three pack exercise where they placed all of the packs 1) on a scale from "least harmful" to "most harmful", 2) on a scale from "least attractive" to "most attractive", and 3) grouped by flavor. Following each activity, participants were asked questions on why they ranked or grouped packs as they did, how the packs are similar and different, and what pack characteristics contributed to their ranking or grouping. Questions were then asked about their interpretation of flavor descriptors and specific flavor capsule related imagery, and the people they think would smoke different types of cigarettes.

Focus group discussions were video and audio recorded. Each discussion lasted 80 – 110 minutes. Following discussion, participants were debriefed and given information on the burden of tobacco in the Philippines and the content of cigarettes. Participants were reimbursed 300 PHP (~6 USD) for transportation costs and given an incentive of 1,000 PHP (~20 USD). Following discussions, the student investigator debriefed with the moderator and the Manila-based research team and took notes on their interpretations of the discussion and group dynamics. All study procedures received ethics approval by the Johns Hopkins Bloomberg School of Public Health Institutional Review Board and the Philippines Social Science Council Social Science Ethics Review Board.

Data Analysis

The focus group discussion videos were watched and the audio was translated and transcribed into English. A second person watched the video and listened to the audio and checked the transcripts for accuracy. The transcripts were then analyzed using a thematic analysis. We read the transcripts several times to familiarize ourselves with the content and made notes on initial impressions and themes. We then developed a codebook based on initial discussions with the

Manila-based research team, emergent themes, and the Context of Consumption Framework. Transcripts were coded using an iterative approach; coding was facilitated by MAXQDA Analytics Pro 2018. The transcripts were analyzed by theme, looking at the co-occurrence between codes and mapping relationships between them. Finally, summaries were created with illustrative quotes. Findings were compared between and across groups of participants stratified by gender and smoking status.

RESULTS

Harm

Flavor capsule and menthol flavored packs were ranked by participants across the entirety of the harm scale. Most participants based their assessments of harm on whether a cigarette was "light" or "strong", as determined by packaging color. Cigarettes deemed "light" were considered less harmful and cigarettes deemed "strong" were considered more harmful. Many participants characterized cigarettes as "light" based on white packaging or light tone (e.g. Figure 4.2, 4Z and DU) and "strong" based on red packaging or dark tone (e.g. Figure 4.2, packs LE and DN). As one participant said, their group assessed harm "…based on the color. If the color is lighter, it means that the cigarette is not so strong. The darker, the stronger." (FG-4,NS). Table 4.2 contains responses regarding color, strength of cigarette, and perceptions of harm.

Table 4.2. Responses Regarding Color, Strength, and Harm

"The darkly colored packaging creates the impression that it's strong, thus harmful due to its chemical content." (FG-1,S)
"These 'lights', we put them here because they seem to contain fewer chemicals, so we think they are less harmful." (FG-1,S)
"Its whiteness suggests being light or mild." (FG-2,S)
"It looks strong even if its menthol. Because its dark." (FG-3,NS)
"Because white pertains to light, so if it's lights it has less negative effect." (FG-8,NS)

Many participants distinguished between a "cool" or "light" menthol that is less harmful and a "strong" menthol that is more harmful. One participant said, "…there is strong menthol and there is cool menthol" (FG-5,S). This distinction was also evident in the flavor groupings. Green packs were generally grouped as "strong" menthol (e.g. Figure 4.2, 8L, C3, ZT, 71, QD, 37) and blue packs were grouped and described as "cool" or "light" (e.g. Figure 4.2, PA, BW, G4, 6W, TN). Flavor capsule cigarette packs were generally placed in the latter group with many participants saying that the "pop" or "button" means it is cooler. Comparing menthol cigarette packs, one participant said "The cigarette which you need to press [the capsule] is lighter compared to Marlboro Black [Menthol]. It depends if you want it [the taste] to be cooler or not." (FG-5,S).

There were some key differences in assessment of harm between groups. In discussion of menthol packs and harm, some male non-smokers associated the green color with "nature" and "organics", saying "If the color is green, they're natural, its mixed with healthy or organic" (FG-7,NS) and "For me, it's green because it's nature" (FG-8,NS). These perceptions were not iterated by any male smokers or females. Some female smokers associated "old", meaning cigarettes sold in their "original" packaging (i.e. not new to the market), with more harm. In discussion of packs on the most harmful side of the scale, one participant said, "…those were perhaps made with old formulations, so it can follow that they were not thoroughly filtered. They seem to lack in technology." (FG-1,S). Another participant, referring to the cigarettes ranked as most harmful, such as Jackpot Menthol, first said, "To some extent, it suggests that those packs from way back are less improved." and then referring to the packs ranked as least harmful, such as Mevius Wind Blue, said "Unlike these with a more modern touch - they seem to have an improved formulation or flavor." (FG-2,S). These views were not echoed by female non-smokers or males.

At the beginning of the ranking exercise on harm, some participants acknowledged that all cigarettes are harmful and that there were no "least harmful" packs. Of the four participants that expressed this view, one participant was a non-smoker (FG-8) and three were smokers (FG-1, FG-5, FG-6).

Figure 4.2. Cigarette Packs Used During Focus Group Discussion Exercises

Attractiveness

In assessments of attractiveness, color was often discussed by participants. Packs described as "colorful" were often ranked as more attractive (e.g. Figure 4.2, EJ, TN, MS, M7, PA, S2, D9, BW). As one participant said, "If it's colorful, it's going to be attractive" (FG-8,NS). Participants also ranked packs that had blending of colors as more attractive (e.g. Figure 4.2, EJ, M7, D9): "The way colors were blended and complemented seems very cool and ingenious. We appreciated the rainbow-ish appeal." (FG-1,S). Blue and pink packs were usually ranked as more attractive (e.g. Figure 4.2, EJ, G4, TN, PA). Females described pink as appealing because it is "girly" (FG-2,S; FG-3,NS) and males described it as appealing because it is "rare" (FG-5,S; FG-7,NS).

Flavor capsule cigarette packs (Figure 4.2, 6W, BW, S2, EJ, SV, D9, PA, YH, M7, G4) were generally ranked as more attractive. In discussions of flavor capsule packs and why they were considered attractive, many participants discussed how the packs piqued their interest. Table 4.3 contains responses that demonstrate the participants' interest in the flavor capsule cigarettes. Some participants also said flavor capsule cigarettes were more attractive due to their expectations regarding taste: "With that ball, if it has that color, it will have a different taste" (FG-8,NS) and "When you try, it has a cooling effect" (FG-4,NS). In discussions of the flavor capsule cigarettes, participants also talked about the finish of the pack and how a shiny finish was attractive: "Actually, it will be more attractive in minimal light, especially in clubs, because of its luminous effect" (FG-2,S).

Table 4.3. Responses Reflecting Interest in Flavor Capsule Cigarettes

"I guess it has something to do with the "pop up"…like [Esse Pop] and [Marlboro Ice Blast]. It kind of creates some anticipation of the taste when I reach this point while smoking this stick." (FG-1, S)
"I just find them enticing." (FG-2, S)
"And it's nice to look at. If they'll see this, they will try it." (FG-3, NS)
"It makes you ask and be curious about the cigarette." (FG-4, NS)
"I will try this because it has a button." (FG-8, NS)

Most participants did not mention menthol flavoring in discussions of their assessments of attractiveness. A couple of female participants mentioned that they thought the traditional menthol packs were attractive. In discussion of menthol packs, one participant said, "More attractive, it is mentholated" (FG-4,NS).

Flavor Capsule Cigarettes: Imagery, Descriptors, and Audience

Imagery

Most participants equated the "button" or "circle" imagery found on flavor capsule cigarettes (Figure 4.2) with the release of flavor. One participant said, "The imaging also emphasizes the flavor and the sensation it would give. Like this one. It shows that when you pop this section, it would heighten the flavor ..." (FG-2,S). Another participant said, "That's located inside and once you press it, the flavor will come out." (FG-7,NS). A couple of participants in the non-smoker groups mentioned not previously being aware that you could press something in the cigarettes to release flavor prior to the discussion (FG-4, FG-8). Most participants also held the expectation that the flavor that would be released from capsule cigarettes was menthol. One participant said, "Because all the cigarettes that have "pop" are menthol" (FG-6,S). A few participants equated the capsule to candy, saying "It serves as a candy" (FG-4,NS) and "It has candy. You need to press on it." (FG-5,S).

Flavor descriptors

Most participants described the "purple" flavor, as named in Marlboro Fusion Purple and Winston Purple Mint (Figure 4.2, S2 and D9), as grape. A couple of participants said "purple" might taste like "ube" (purple yam, a popular dessert flavor in the Philippines) (FG-8,NS) or "eggplant" (FG-6,S). Some participants also said the "purple" flavor would be "sweet" and "cold". When asked what cigarettes labeled as "ice" , such as Marlboro Ice Blast (Figure 4.2, pack BW), would taste like, most participants said "cool" or "cold". Many also said they would taste like "candy" (FG-1,S; FG-2,S; FG-3,NS; FG-5,S; FG-6,S) and referenced the candies, Mentos and Snowbear. Some participants said "ice" would taste like menthol or mint. When asked what cigarettes labeled as "fresh" , like Esse Pop which says "Pop it fresh, feel the change" (Figure 4.2, PA), would taste like, most participants said "cool" or "cold". Male smokers compared "fresh" to the taste after brushing your teeth, saying: "Similar to the taste after brushing" (FG-5) and "It's like you just finished brushing your teeth" (FG-6).

Audience

During the exercise where participants were asked who would normally smoke specific cigarette packs, we inquired about two flavor capsule packs, Winston Purple Mint and Marlboro Ice Blast (Figure 4.2, S2 and BW). Most participants said that those who would smoke Winston Purple Mint would likely be in their teens or 20s, would be "party-goers", and most likely female. Most participants said that those who smoke Marlboro Ice Blast could be male or female and would likely be in their 20s or "millennials". Some participants thought that Marlboro Ice Blast would most likely be smoked by students. When participants were asked to name their favorite pack, most named a flavor capsule pack. Common favorites were Bohem Mojito Double Boost, DJ

Strawberry Mix, Marlboro Fusion Purple, and Winston Purple Mint (Figure 4.2, SV, EJ, D9, and S2, respectively).

DISCUSSION

Overall, flavor capsule cigarette packs were considered more attractive than other packs, including non-flavored packs and traditional menthol packs. The appeal seemed to be a result of the capsule feature which stirred curiosity and created expectations regarding taste, as well as the colors and shiny finish of the packs. This finding aligns with research conducted in Scotland that found that consumers perceive flavor capsule cigarettes to have a better taste and were interested in trying them.[15,16] Menthol flavoring alone did not seem to be particularly appealing. In assessments of attractiveness, color was the most discussed factor; the flavor capsule cigarettes named as most attractive were described as bright, colorful, and having nice color combinations, while the traditional menthol and non-flavored cigarettes that were rated as least attractive were described as dull and often dark. Flavor capsule advertising has also been described by other researchers as "colorful, dynamic, and innovative".[26] Our findings are consistent with advertising research on chroma and value of color that found that advertisements utilizing high chroma colors (i.e. rich, deep) are more liked than ads with low chroma colors (i.e. dull) and ads with colors of higher value (i.e. colors with a "whitish" quality) are more liked than ads utilizing colors of lower value (i.e. colors with a "blackish" quality).[27] Research has also found that both children and young adults have positive reactions to bright and light colors and negative emotions to dark colors.[28,29]

In terms of harm, there was generally no differentiation between flavor capsule packs and non-flavored cigarettes. This is consistent with some qualitative research,[16] but conflicts with the findings of other research where flavor capsule cigarettes were perceived as less harmful than non-flavored cigarettes.[14,15] However, regarding menthol cigarettes, participants differentiated between

different types of menthol – a light menthol which is less harmful and a strong menthol which is more harmful. Again, color was key to these assessments – blue packs were generally considered light and less harmful and green packs were generally considered strong and more harmful.

The finding that consumers perceive cigarette packaging colors to be an indicator of strength is consistent with existing research.[30,31] Our finding that blue menthol packs are generally perceived as less harmful is in line with past research that finds tobacco packs labeled "blue" or that are primarily colored light blue are perceived as less harmful.[19,22,32,33] Research on cigarette packaging in select jurisdictions in Canada has found that blue is used to convey menthol-like qualities after menthol bans are implemented.[34,35] However, to our knowledge, this is the first study to find a clear distinction between consumer perceptions of green and blue menthol cigarette packs and harm. We speculate that the finding that blue menthol packs are considered less harmful than the green menthol packs may be related to the amount of time packs have been on the market. Given that blue is observed to be used in the design of menthol packs that are new to the market, the perception that the older green menthol packs are more harmful may be related to the perception that some consumers hold that older cigarette variants somehow include "less technology" and are "not thoroughly filtered". Notably, research examining the effect of color on cognitive task performances found that compared to red, blue elicits approach behavior which is shown to make people behave in a more risky manner[36] – if this finding translates to a consumption context, the combination of perceptions of decreased harm and approach behavior elicited by blue could be particularly problematic.

Contrary to the general consensus that green packs are stronger and therefore, more harmful, some male non-smokers associated green packs with "nature" and "organics". This in line with one study of young adults in the United States that found that the color green is associated

with nature and trees.[37] It is also possible that these participants associated the color green with the introduction of "green" products, which are marketed by companies as environmentally sustainable products and improve customer attitudes toward brands.[38]

Capsule imagery on packs was generally equated with the cigarettes having a ball that can be "popped" to release flavor. The unconventional flavor descriptor "purple" was almost universally understood to convey a grape flavor and "ice" and "fresh" were understood to convey a "cool" and "cold" sensation. Flavor capsule packs were assumed to be menthol flavored and the capsule communicated an added coolness to consumers. Sometimes the capsule was likened to candy and the flavor of flavor capsule cigarettes was often likened to candy. The flavor capsule packs were believed to appeal to a young audience, including teens and young adults. These findings are consistent with previous research.[13-17,39]

While the intention of this study was not to test the Context of Consumption Framework, using the Framework as a guide informed identification of pack design features that are associated with consumers' cognitive and affective response. As evidenced by our findings, packaging design elements such as color, and graphics such as imagery and flavor descriptors, largely are associated with Filipino young adult perceptions of cigarette product qualities, such as harm, and perceived attractiveness of the cigarette pack. We also found that these design elements had a notable association with respondents' emotions, often eliciting feelings of curiosity and interest.

Strengths of this study include our use of a research firm in Manila to ensure that our research protocol was culturally appropriate by incorporating their input on our research protocol and interview guide and our inclusion of young adults, a group shown to be particularly susceptible to tobacco marketing. To our knowledge, this is the first study to inquire about consumer perceptions of unconventional flavor descriptors on flavor capsule packs. Due to the qualitative

nature of this study and given that our sample was limited to young adults in Manila, findings may not representative of the entire young adult population in the Philippines. Another limitation may be our wide definition of non-smokers which included former smokers, experimental smokers, and never smokers. Some never smokers may have deferred to former or experimental smokers in discussion due to their deemed lack of knowledge of cigarettes. We also did not ask participants their regular brand of cigarettes or if they had tried the specific brands of cigarettes shown.

Policy Implications

While unsurprising, it is concerning that participants found flavor capsule cigarettes attractive and likened the capsule to candy, as well as showed a strong interest in them and thought they would most likely be smoked by teens or young adults. In addition, it is also problematic that young adults still perceive some menthol cigarettes to be less harmful than other cigarettes and base this assessment on the color of packs. In accordance with World Health Organization recommendations, flavored cigarettes including menthol, should be banned.[40] The strong growth of the flavor capsule cigarette market and their appeal to young people in conjunction with our findings calls for greater attention to be heeded to these products and their inclusion in a ban on flavored cigarettes. The discussion of color in assessments of harm and attractiveness and a lesser focus on descriptors, draws attention to the need for regulations beyond bans on descriptors and strengthens the argument for plain packaging regulations. Plain packaging regulations and flavor bans could make cigarettes less appealing to younger generations and reduce misperceptions of product harm.

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CHAPTER 5 - "ICE BURST" AND "PURPLE BREEZE" : THE EFFECTS OF FLAVOR AND PACKAGING DESIGN ON YOUNG ADULT FILIPINO ASSESSMENTS OF HARM, APPEAL AND INTENTION TO TRY

ABSTRACT

Introduction There are high rates of smoking in the Asia Pacific region, including in the Philippines. In the Philippines, menthol cigarettes are popular and the market share for flavor capsule cigarettes is growing. Little research on consumer perceptions of flavored cigarettes in low- and middle-income countries has been conducted.

Methods A randomized experimental survey where participants viewed one of five cigarette packages that varied by flavor and flavor capsule inclusion was conducted with young adult Filipinos in Metro Manila, Philippines. A questionnaire was used to assess consumer perceptions of relative harm, appeal, and intention to try.

Results The flavored non-capsule and capsule packs were appealing to young adult participants, particularly the concept flavor, "purple breeze" capsule pack. Participants also considered flavor capsule cigarettes less harmful and were more likely to report an intention to try them than non-capsule cigarette packs.

Conclusions These findings demonstrate how flavored cigarettes, including flavor capsule cigarettes, appeal to young adult Filipinos and draw attention to the appeal of concept flavors like "purple breeze". Findings can inform tobacco regulations in the Philippines and the Asia Pacific region.

BACKGROUND

Some of the highest rates of smoking are in the Asia Pacific region and in the Philippines, where 22.7% of the adult population smokes, and over 100,000 Filipinos die annually from smoking-caused diseases.[1] As of 2018, the market share for menthol cigarettes in the Philippines was 22.4%.[2] Flavor capsule cigarettes, which have small gelatin shells in the filter that can be crushed to release a flavor and are typically mint or menthol flavored, are becoming popular in the Philippines.[2,3] Globally, flavor capsule cigarettes are the fastest growing product in the combustible cigarette market.[4,5]

Traditional menthol and flavor capsule cigarettes present distinct public health concerns. Menthol cigarettes reduce the harshness of smoking,[6] are used by a younger demographic,[7] and associated with smoking initiation.[8] Among youth and young adults, flavor capsule cigarettes are associated with perceptions of less harm, greater attractiveness, and intention to try.[9–12] Smokers report smoking flavor capsule cigarettes because they like the taste, the flavor options, and enjoy crushing the capsule.[13,14]

Most research on consumer perceptions of menthol cigarettes has been conducted in high income countries and finds that a low percentage of consumers believe that menthol cigarettes are less harmful than non-menthol cigarettes.[15,16] However, the one study to our knowledge that has examined consumer perceptions in a low- and middle-income country context, found that in Malaysia, 16% of participants agreed that menthol cigarettes are less harmful than non-menthol cigarettes and in Thailand, 35% of participants agreed with this statement.[17] There is currently no research published on consumer perceptions of flavor capsule cigarettes that was conducted in Asia. In a study of adolescents in Mexico where participants viewed cigarette packaging, flavor capsule cigarettes were perceived as less harmful than other cigarettes.[9]

In the Philippines, tobacco advertising is only allowed at point-of-sale, making cigarette packaging an increasingly valuable tobacco industry marketing tool.[18] Tobacco packaging characteristics such as color, imagery, and descriptors influence consumer perceptions of appeal and harm.[19–22] Smokers of flavor capsule cigarettes place more of an emphasis on pack design than traditional menthol cigarette and non-menthol smokers.[13]

Given that cigarette packaging is recognized as an important marketing tool, the objective of the present study was to examine the effects of cigarette package design conveying flavoring and capsule presence in cigarettes on young adult Filipino consumer perceptions of relative harm, appeal, and intention to try. Based on previous findings, we hypothesized the following:

H1: Young adults who view flavored cigarette packs will be more likely to perceive the pack as more attractive and the product as less harmful and be more likely to report an intention to try the product compared to non-flavored cigarette packs.

H2: Young adults who view flavor capsule cigarette packs will be more likely to perceive the pack as more attractive and the product as less harmful and be more likely to report an intention to try the product compared to non-flavored cigarette packs and flavored cigarette packs with no capsule.

H3: Young adults who view menthol flavored cigarette packs will be more likely to perceive the pack as more attractive and the product as less harmful and be more likely to report an intention to try the product compared to non-flavored cigarettes.

METHODS

Sample and Recruitment

Participants were recruited via household recruitment in August and September 2019. Barangays (the smallest political unit into which cities and municipalities in the Philippines are divided) served as the primary sampling unit. Barangays were randomly selected from the seventeen municipalities and cities in Metro Manila. In order to avoid a clustering effect, no more than five respondents per barangay completed the questionnaire. Within each barangay, households were randomly selected using a walking and house skipping protocol. If there was more than one eligible household member, an individual was randomly selected. In order to ensure that smokers and non-smokers were represented in the sample, we employed a quota-based sampling procedure for smoking status. Inclusion criteria required participants to be 18–24 years old, able to speak and read Tagalog, and be residents of the Philippines.

Experimental Survey Procedures

We used a between-subjects design in which 275 participants were randomly assigned to view one of five cigarette pack images (Figure 5.1). The five cigarette pack conditions were classified as: 1) Non-flavored, no capsule; 2) Menthol, no capsule (i.e. traditional menthol); 3) Menthol ("Ice burst") capsule; 4) "Purple breeze", no capsule; and 5) "Purple breeze", capsule. These packs were designed with a graphic designer based on findings from a study that examined the differences in packaging of cigarettes in the Philippines that differ by flavor and flavor capsule inclusion[3] and based on observations of packs on the market in Manila in early 2019. In order to avoid strong brand associations, a brand that residents of the Philippines would likely not be familiar with was used in the branding of the fictitious packs. The brand used, West, is a German

brand of cigarettes that is owned and manufactured by Imperial Tobacco and primarily sold in Europe.

Figure 5.1. Cigarette Packs Used in Experimental Survey

Quotas for smokers and non-smokers per cigarette pack condition were set at 25 smokers and 25 non-smokers per condition. Once a quota was reached, participants could no longer be randomly assigned to that condition.

Participants were informed that they were being asked to join a research study on the attitudes and beliefs that young adults in the Philippines have about cigarette packaging. Interested participants completed eligibility screening questions on age and smoking status. If participants fit the inclusion criteria, they were engaged in the informed consent process. If they consented to be in the study, participants then answered questions on their cigarette brand preference (when applicable) and were randomly assigned to view one of five cigarette packs. The image of the cigarette pack appeared at the top of a tablet screen while participants answered questions on perceived relative harm, appeal, and intention to try. Participants then answered sociodemographic questions before exiting the questionnaire. Surveys were self-directed and completed in Tagalog.

Measures

Smoking-related variables

Participants reported their smoking status based on a series of questions about their smoking behavior taken from the PhenX toolkit[23], and if applicable, reported their cigarette brand preference. Participants were classified as a "smoker" if they had ever smoked a cigarette and reported currently smoking some or all days. Participants were classified as a "non-smoker" if they had never smoked a cigarette or if they had ever smoked a cigarette, but reported now smoking not at all.

Sociodemographics

Participants reported sociodemographic characteristics, including age, gender, highest level of education, monthly income, and current living situation. Sociodemographic questions were taken from the World Health Organization Global Adult Tobacco Survey, Philippines.[1]

Relative harm

Perceived relative harm was measured using a question taken from the Population Assessment of Tobacco and Health (PATH)[24]: "Compared to other cigarettes, how harmful is this product to your health?". Response options ranged from 1 "Much less harmful" to 5 "Much more harmful". "Don't know" or "Prefer not to respond" were also options.

Appeal

Perceived appeal was measured by participants' rating of the package on a seven-point scale taken from the aesthetic pleasure in design scale.[25] They were given the instructions, "Rate

your agreement with the following statement on a scale of 1 “Strongly disagree” to 7 “Strongly agree” where the statement was “This is an attractive cigarette package”.

Intention to try

Intention to try was measured using this question taken from the Institute of Medicine Scientific Standard for Assessing Modified Risk Tobacco Products[26]: “What is the chance that you will try this product in the next six months?”. Answer options were given on a scale of 1 “Very likely” to 4 “Not at all likely”.

Data Analysis

In regards to perceived harm, responses, “Much less harmful” and “A little less harmful” were collapsed into the category, “Less harmful” and “No different”, “A little more harmful”, and “Much more harmful” were collapsed into “No different or more harmful”. For appeal, responses, “Strongly disagree”, “Disagree”, “Somewhat disagree”, and “Neither agree or disagree” were collapsed and coded as “Unattractive” and responses, “Strongly agree”, “Agree” or “Somewhat agree” were collapsed and coded as “Attractive”. In regards to intention to try in the next six months, responses, “Very likely” and “Somewhat likely” were collapsed and coded as “Likely” and responses, “Somewhat unlikely” and “Not at all likely” were collapsed and coded as “Unlikely”. Responses of “Prefer not to answer” or “Don’t know” were excluded from analyses. Records where the attention question included in the questionnaire was answered incorrectly, indicating that participants were likely not reading the questionnaire, were dropped from the analyses (n=12).

Data were analyzed using Stata 14. Chi-square tests were used to test whether participant characteristics were evenly distributed across experimental conditions. Chi-square tests were also

used to examine differences in the proportion of participants reporting perceptions of less harm, pack as attractive, and intention to try across experimental conditions and key participant characteristics. Logistic regressions were used to assess the extent to which experimental condition and key participant characteristics affected the likelihood of perceiving the pack viewed as less harmful, attractive, and reporting intention to try. Finally, we grouped pack conditions by flavor and capsule inclusion and used chi-square tests to examine differences in the proportion of participants reporting perceptions of less harm, pack as attractive, and intention to try. The Benjamani-Hochberg procedure was used to determine significance across multiple comparisons.

RESULTS

Participant Characteristics

Table 5.1 shows the characteristics of study participants (N=275). Approximately half of our sample was male (48.0%). The mean age of participants was 20.9 years. In terms of highest level of education, 44.0% of participants graduated from high school and almost half were graduates of college or currently attending college (46.2%). The majority of participants lived with family (91.3%).

Analyses indicated that participant characteristics did not vary across experimental conditions, suggesting that randomization to experimental condition was adequate.

Table 5.1. Sample Participant Characteristics (N=275)

	N	%
Age (mean=20.9, SD=0.13)		
18	48	17.4
19	40	14.6
20	38	13.8
21	37	13.4
22	34	12.4
23	29	10.6
24	49	17.8
Gender		
Male	132	48.0
Female	139	50.6
Another gender	4	1.4
Smoking Status		
Smoker	123	44.7
Non-smoker	152	55.3
Education		
Less than high school	26	9.4
HS graduate	121	44.0
Attending college or graduate	127	46.2
Refused	1	0.4
Monthly income		
No income	93	33.8
P8,000 or below	78	28.4
P8,001 to P30,000	69	25.1
P30,001 or more	13	4.7
Refused	22	8.0
Living situation		
Lives with family	251	91.3
Live with roommates or alone	22	8.0
Refused	2	0.7

Effect Of Packaging Condition On Perceived Harm, Attractiveness, And Intention To Try

Table 5.2 shows the differences in proportion of participants who perceived the pack they viewed as less harmful, attractive, and intended to try the product in the next six months by experimental condition and key participant characteristics, as well as the unadjusted odds ratios of the effect of the pack and participant characteristics on these outcomes.

Relative harm

Compared to the control condition (non-flavored, no capsule), the menthol, no capsule condition was associated with relative harm with participants at marginally significant lower odds of perceiving the pack as less harmful (OR=0.27, 95% CI 0.07-1.00). Across experimental conditions, compared to non-smokers, smokers had significantly higher odds of perceiving packs as less harmful (OR=6.04, 95% CI 2.75 – 13.23). Across experimental conditions, compared to males, females had significantly lower odds of perceiving packs as less harmful (OR=0.39, 95% CI 0.19 – 0.80).

Appeal

Compared to the control condition (non-flavored, no capsule), the menthol ("ice burst") capsule condition was associated with appeal with significantly greater odds of participants perceiving the pack as attractive (OR=2.60, 95% CI 1.24 – 5.46). Compared to the control condition, the "purple breeze" capsule condition was associated with attractiveness with marginally significant greater odds of participants perceiving the pack as attractive (OR=2.16, 95% CI 1.00 – 4.66).

Intention to try

Compared to the control condition (non-flavored, no capsule), the "purple breeze" capsule condition was associated with intention to try with marginally significant greater odds of participants intending to try the pack (OR=2.13, 95% CI 0.97 - 4.66). Across experimental conditions, compared to males, females had significantly lower odds of intending to try the product in the next six months (OR=0.45, 95% CI 0.27 – 0.75). Across experimental conditions, compared to those with less than a high school education, those participants who are currently attending or

Table 5.2. Percentage and Odds of Perceiving Cigarette Shown is "Less Harmful", "Attractive", and Respondents Intend to Try, Among All Respondents

	Relative harm – less harmful (n=256)					Attractiveness – attractive (n=269)					Intention to try (n=263)				
	n	%	OR	95% CI	p-value	n	%	OR	95% CI	p-value	n	%	OR	95% CI	p-value
Condition															
No flavor, no capsule	12	19.7	Ref			20	30.8	Ref			19	29.2	Ref		
Menthol, no capsule	3	6.1	0.266	0.071–1.004	0.051	18	35.3	1.230	0.563-2.675	0.606	21	43.8	1.883	0.862-4.114	0.113
Menthol capsule	8	15.1	0.726	0.271–1.938	0.523	30	53.6	2.596	1.240-5.462	**0.012**	24	41.4	1.709	0.809-3.609	0.160
Purple breeze, no capsule	7	15.2	0.733	0.263–2.038	0.551	20	41.7	1.607	0.738-3.502	0.288	17	37.8	1.470	0.657-3.289	0.349
Purple breeze capsule	13	27.7	1.561	0.636–3.834	0.331	24	49.0	2.160	1.00-4.660	0.050	22	46.8	2.131	0.973-4.664	0.058
		p=0.074					p=0.079					p=0.352			
Gender															
Male	29	22.8	Ref			62	47.33	Ref			62	48.44	Ref		
Female	13	10.4	0.392	0.193–0.796	**0.010**	49	36.57	0.641	0.393-1.048	0.077	39	29.77	0.451	0.271-0.752	**0.002**
Another gender	1	25.0	1.126	0.113–11.244	0.919	1	25.00	0.371	0.037-3.660	0.396	2	50.00	1.065	0.145-7.790	0.951
		p=0.028					p=0.164					**p=0.008**			
Smoking Status															
Non-smoker	9	6.4	Ref			55	37.16	Ref			17	11.97	Ref		
Smoker	34	29.3	6.035	2.753–13.230	**<0.001**	57	47.11	1.506	0.924-2.454	0.100	86	71.07	18.067	9.515-34.305	**<0.001**
		p<0.001					p=0.100					**p<0.001**			
Education															
Less than high school	6	24.0	Ref			7	28.0	Ref			14	56.0	Ref		
HS graduate	20	17.4	0.667	0.236–1.880	0.443	47	39.2	1.656	0.642-4.267	0.297	50	42.4	0.578	0.242-1.379	0.216
Attending college or graduate	17	14.8	0.549	0.192–1.573	0.265	58	47.2	2.295	0.894-5.886	0.084	39	32.5	0.378	0.157-0.909	**0.030**
		p=0.526					p=0.153					p=0.057			
Monthly income															
No income	8	9.3	Ref			34	37.0	Ref			27	30.7	Ref		
P8,000 or below	14	19.2	2.313	0.911–5.876	0.078	37	48.1	1.578	0.853-2.921	0.147	39	51.3	2.381	1.258-4.509	**0.008**
P8,001 to P30,000	16	24.2	3.120	1.243–7.829	**0.015**	28	42.4	1.257	0.659-2.399	0.488	29	43.9	1.771	0.911-3.441	0.092
P30,001 or more	2	18.2	1.267	0.397–11.815	0.372	5	41.7	1.218	0.358-4.140	0.752	5	41.7	1.614	0.470-5.542	0.447
		p=0.096					p=0.548					p=0.059			
Living situation															
Lives with family	37	15.8	Ref			106	43.3	Ref			90	37.3			
Lives with roommates or alone	6	28.6	2.13	0.776–5.846	0.142	5	22.7	0.386	0.138-1.079	0.069	13	61.9	2.726	1.088-6.832	**0.032**
		p=0.135					p=0.061					**p=0.027**			

have graduated from college had significantly lower odds of intending to try the product (OR=0.38, 95% CI 0.16 – 0.91). Across experimental conditions, compared to participants living with their family, those participants who live with roommates or alone had significantly greater odds of intending to try the product (OR=2.73, 95% CI 1.09 – 6.83). Across experimental conditions, compared to non-smokers, smokers had significantly higher odds of intending to try the product (OR=18.07, 95% CI 9.52 – 34.31).

Perceptions Of Products Based On Conditions By Flavor And Capsule Inclusion

Table 5.3 shows the differences in proportion of participants who perceived the pack they viewed as less harmful, attractive, and who reported an intention to try the product, comparing conditions by flavor and capsule inclusion. A statistically significant greater proportion of participants who viewed "purple breeze" flavored packs perceived the product as less harmful (21.5%) compared to those participants who viewed menthol flavored packs (10.8%) (p=0.041). A statistically significant greater proportion of participants who viewed flavored capsule packs perceived the product as less harmful (21.0%) compared to those participants who viewed the flavored, no capsule packs (10.5%) (p=0.046). While not significant, a greater proportion of participants who viewed flavored capsule packs (28.80%) or flavored packs in general (capsule and no capsule) (25.0%) perceived the pack they viewed as attractive compared to participants who viewed the non-flavored, no capsule pack (16.1%) (p=0.083 and p=0.147, respectively). While also not significant, a greater proportion of participants who viewed flavored capsule packs (43.8%) or flavored packs in general (capsule and no capsule) (42.4%) reported intention to try the product than participants who viewed the non-flavored, no capsule pack (29.2%) (p=0.057 and p=0.059, respectively).

Table 5.3. Prevalence Of Believing Cigarette Shown Is "Less Harmful", "Attractive" And Respondent Intends To Try – Comparisons By Non-Flavored Vs. Flavored, Menthol Flavor Vs. "Purple Breeze" Flavor, And Flavored Non-Capsule Vs Flavored Capsule Cigarette Packs

	No flavor, no capsule vs. flavored, no capsule	Menthol flavor vs. "Purple breeze" flavor (capsule and no capsule)	Flavored, no capsule vs. flavored capsule	No flavor, no capsule vs. flavored capsule	No flavor, no capsule vs. flavored, capsule and flavored, no capsule	No capsule, non-flavored and flavored vs. capsule
Group 1 n; Group 2 n (N)	61; 95 (256)	102; 93 (195)	95; 100 (195)	61; 100 (161)	61; 195 (256)	156; 100 (256)
Less harmful	12 (19.7) 10 (10.5)	**11 (10.8)** **20 (21.5)**	**10 (10.5)** **21 (21.0)**	12 (19.7) 21 (21.0)	12 (19.7) 31 (15.9)	22 (14.1) 21 (21.0)
	p=0.109	**p=0.041***	**p=0.046***	0.840	0.491	0.150
Group 1 n; Group 2 n (N)	62; 21 (158)	103; 93 (196)	96; 100 (196)	62; 100 (162)	62; 196 (258)	158; 100 (258)
Attractive	10 (16.13) 21 (21.88)	23 (22.3) 26 (28.0)	21 (21.9) 28 (28.0)	10 (16.1) 28 (28.0)	10 (16.1) 49 (25.0)	31 (19.6) 28 (28.0)
	p=0.375	p=0.364	p=0.322	0.083	0.147	0.118
Group 1 n; Group 2 n (N)	65; 93 (158)	106; 92 (198)	93; 105 (198)	65; 105 (170)	65; 198 (263)	158; 105 (263)
Intend to try	19 (29.2) 38 (40.9)	45 (42.5) 39 (42.4)	38 (40.9) 46 (43.8)	19 (29.2) 46 (43.8)	19 (29.2) 84 (42.4)	57 (36.1) 46 (43.8)
	p=0.134	p=0.993	p=0.675	p=0.057	p=0.059	p=0.208

*Benjamani-Hochberg procedure used to determine significance for test with multiple comparisons

DISCUSSION

Overall, our results indicate that flavor capsule cigarettes and flavored cigarettes, generally, are attractive to young adult Filipinos and that young adults indicate they are more likely to try them than non-flavored, no capsule cigarettes. Few young adult Filipinos believe that traditional menthol cigarettes are less harmful than other cigarettes. This is positive, however one-fifth of participants who viewed the "purple breeze" flavored packs perceived them as less harmful than other cigarettes, highlighting how concept flavors contribute to misperceptions regarding harm among young adult Filipinos. Participants also perceived flavor capsule packs to be less harmful than non-capsule packs.

The finding that menthol, no capsule product was at lower odds of being viewed as less harmful than the non-flavored, no capsule product was not in line with our original hypotheses. In an exploratory study conducted in early 2019 where we held focus group discussions with young adult Filipinos in Manila, participants indicated that green menthol packs were deemed as harmful due to their "chemical content". However, our survey findings are inconsistent with focus group discussion findings as most focus group participants rated non-flavored cigarettes as more harmful than menthol cigarettes. A greater proportion of participants who viewed the "purple breeze capsule" pack perceived the product to be less harmful than participants who viewed the traditional menthol pack. In our hypotheses, we did not distinguish between characterizing and concept flavors. To our knowledge, no published research has examined consumer perceptions of concept flavored tobacco compared to characterizing flavored tobacco. Future studies may explore how consumers distinguish relative harm between non-flavored and traditional menthol cigarettes and explore the difference in perceptions of harm between characterizing and concept flavors.

Menthol capsule packs and "purple breeze" capsule packs were generally perceived as more attractive than non-flavored packs. This is in line with our hypotheses and consistent with previous studies that find that youth and young adults rate capsule cigarette packs as attractive.[9,10,12,27] A greater proportion of participants also perceived flavored cigarette packs, regardless of whether they included a capsule, as more attractive than the non-flavored cigarette pack. This is also in line with our hypotheses and with previous findings that flavored cigarettes appeal to a young demographic.[28–30]

Participants were overall, more likely to report intending to try flavor capsule products compared to non-capsule products. This is in line with our hypotheses and past research on flavor capsule cigarettes.[9–12] Across conditions, females had a lower odds of intending to try the cigarette product shown than males and those participants currently attending or who had graduated from college had a lower odds of reporting intention to try than those with less than a high school education. Smokers had a higher odds of reporting intention to try than non-smokers, and participants living alone or with roommates had a higher odds of reporting intention to try than non-smokers. These findings are in line with what we know about smoking and demographics in the Philippines.[31]

Our research has a number of strengths and limitations. We controlled for strong brand associations by designing fictional cigarette packs that utilize a brand name that is likely unfamiliar to participants. A professional graphic designer designed our fictional cigarette packs, resulting in high quality and realistic images. However, viewing a static image of a cigarette pack on a screen is a different experience than viewing packs on display at point-of-sale or elsewhere, limiting our external validity. There is likely a central tendency bias in assessments of perceived relative harm

and appeal. Since we only recruited participants in Metro Manila, our sample may not be representative of the young adult population in the Philippines, particularly rural areas.

Future research should explore consumer perceptions of menthol and flavor capsule cigarettes among adolescents in the Philippines, as well as smokers' motivations for smoking their usual brand of cigarette. Our findings highlight the appeal of menthol and flavor capsule cigarettes and misperceptions of harm among young adult Filipinos. In order to reduce appeal and negate misperceptions, the Philippines should consider strong flavored tobacco restrictions, including a ban on both characterizing and concept flavors. The findings also demonstrate the overall impact of packaging design and its influence over consumer perceptions and highlight the need for plain packaging regulations in the Philippines.

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CHAPTER 6 - CONCLUSION

The goal of this dissertation was to answer the following two research questions: 1) What packaging elements are used to market menthol and flavor capsule cigarettes in the Philippines? and 2) What are consumer perceptions of menthol and flavor capsule cigarettes, in terms of attractiveness, harm, and intention to try? This goal was addressed by utilizing a multiphase mixed methods design consisting of a quantitative content analysis of cigarette packaging from the Philippines, focus group discussions with young adult Filipinos, and a randomized experimental survey with young adult Filipinos. This chapter briefly summarizes the findings from each of the three studies, describes the significance of the totality of findings, and discusses the policy and practice implications, strengths and limitations, and future areas of research.

SUMMARY OF FINDINGS

A quantitative content analysis of tobacco packaging from the Philippines, as discussed in Chapter 3, compared the graphic and structural elements between four categories of cigarette packaging grouped by flavor and capsule inclusion (flavored non-capsule, menthol non-capsule, menthol capsule, and non-menthol capsule). There were no differences found between cigarette packs in terms of structural elements (e.g. pack type, shape), with the exception of pack type, with a greater proportion of menthol capsule packs being hard packs compared to menthol non-capsule packs. In terms of graphic components (e.g. imagery, descriptors, color), packs varied significantly in regards to color, use of the descriptor “fresh”, and use of technology appeals. A greater proportion of menthol packs (both non-capsule and capsule) displayed green as a principal color or as a descriptor than non-flavored non-capsule packs. A greater proportion of non-menthol capsule packs displayed “fresh”, “freshness”, and/or “refresh” compared to non-capsule packs (both non-flavored and menthol). Finally, a greater proportion of capsule packs (both menthol and

non-menthol) displayed technology descriptors or imagery than non-flavored non-capsule packs (both non-flavored and menthol).

This study is the first to quantitatively describe the differences in packaging between flavored and non-flavored cigarettes. Understanding the elements that characterize menthol and flavor capsule packs informed subsequent studies of this dissertation that examined young adult Filipino perceptions of cigarette packaging and the design of packs to use as stimuli in our examination of consumer perceptions of relative harm, appeal, and intention to try. The interpretation of the meaning of some of the commonly used colors, descriptors, and imagery on cigarette packs from the Philippines were also explored in Chapter 4.

Chapter 4 detailed the results of focus group discussions with young adults in Manila used to explore how young adult Filipinos interpret non-characterizing flavor descriptors (i.e. "purple", "fresh", "ice) and capsule related imagery, as well as how packaging elements influence their perceptions of harm and attractiveness. Color played a large role in consumer perceptions of harm. Tone of color (i.e. light vs. dark), in particular, was used by consumers as an indicator of whether a cigarette was "light", indicating that it was less harmful or "strong", indicating that it was more harmful. As described in Chapter 3, menthol cigarettes have traditionally been sold in green packaging. However, young adults identified the cigarette packs that were primarily blue as menthol flavored as well, and made distinctions between green and blue colored menthol cigarette packaging: green packs were often described as "strong" and deemed more harmful whereas, blue packs were often described as "cool" or "light" and deemed less harmful. While it was a minority opinion in the focus groups, some young adults did associate the color green with "nature", "organics", and/or "health".

The technology appeal identified as being characteristic of menthol flavored capsule packs in Chapter 3 was an area explored in Chapter 4 and we found that most participants equated the "button" or "circle" imagery with a release of flavor. Some participants specifically identified the flavor as menthol while others equated the capsule or the flavor released by the capsule as "candy". Most participants found flavor capsule packs attractive, the anticipated flavor or taste being one reason and the other being the use of colors on the packaging and the shiny finish. While participants did not specifically cite technology in their discussions of flavor capsule cigarettes, they reiterated that the packs piqued their interest and identified the typical consumer of the flavor capsule cigarettes as young and "party goers".

Chapter 3 also noted the use of purple, as a color and/or descriptor, on menthol flavored cigarette packaging. Chapter 4 notes that most participants identified "purple" as grape. Other descriptors used on packaging, as noted in Chapter 3, included "ice" and "fresh". Participants described "ice" as "cool" or "cold", and said it would taste like candy, commonly referencing Mentos or Snowbear. "Fresh" was similarly described as "cool" or "cold".

These findings contribute to the literature on perceptions of flavored and flavor capsule cigarettes, as well as builds on the existing literature to describe consumer interpretations of non-characterizing flavor descriptors, also referred to as concept flavors, that are being used on menthol and flavor capsule packaging. With knowledge of the existing cigarette market and some the issues that would benefit from quantitative examination, we conducted a randomized experimental survey that utilized cigarette packaging as stimuli, as seen in Chapter 5.

In the experimental survey, young adult Filipino participants were randomized to view one of five images of a single cigarette package – a non-flavored non-capsule pack, a menthol non-capsule pack, a menthol ("ice burst") capsule pack, a "purple breeze" non-capsule pack, or a

"purple breeze" capsule pack. Findings show that participants rated flavor capsule packs as more attractive than non-flavored non-capsule packs. This is in line with findings from Chapter 4 which found that participants perceived flavor capsule cigarettes as most attractive compared to other cigarettes. Interestingly, the menthol non-capsule cigarettes were perceived as more harmful than non-flavored non-capsule cigarettes. This is in line with findings from Chapter 4 which, as described previously, found that participants perceived green menthol packs to be "stronger" and therefore, more harmful. Compared to non-flavored non-capsule cigarettes, participants were at greater odds of stating their intention to try "purple breeze" capsule cigarettes. A greater proportion of participants also reported intention to try flavor capsule cigarettes (menthol and "purple breeze"), as well as flavored packs in general (including non-capsule packs), compared to non-flavored non-capsule cigarettes. These findings highlight that flavored cigarettes, including those with a capsule and those with a concept flavor name, are considered particularly appealing to young adult Filipinos and associated with intention to try.

Overall, findings from Chapters 3, 4, and 5 identify packaging elements that are characteristic of cigarettes that are distinguished by flavor and flavor capsule inclusion and describe the perceptions that young adult Filipinos have of different types of cigarettes based on the packaging. These findings can inform tobacco control policy and practice and offer direction for areas of future research.

POLICY AND PRACTICE IMPLICATIONS

Banning Flavored Cigarettes

These findings confirm and add to the scientific literature that concludes that flavored cigarettes are attractive to younger populations, including young adults, and are associated with

greater intention to try than non-flavored cigarettes. Furthermore, these findings extend our knowledge of consumer perceptions of menthol cigarettes by distinguishing between menthol cigarettes that are sold in primarily green colored packaging versus menthol cigarettes that are sold in primarily blue colored packaging. Menthol cigarettes in green packaging are considered more harmful by young adults in the Philippines, while those in blue packaging are considered by many to be less harmful. The findings also draw our attention to the issues that stem from concept flavors such as "ice burst" and names that include the descriptor "purple". These concept flavored cigarettes were also found to be very attractive to young adult Filipinos and were associated with a greater intention to try. Based on these findings and the strong evidence base surrounding youth and young adult's preference for flavored tobacco and the appeal of flavored products to these demographics,[1,2] the Philippines should ban all flavored tobacco products. This ban should include menthol flavored cigarettes, as well as concept flavors. Currently, bans on flavored cigarettes, including menthol flavored, are implemented in Canada, Ethiopia, Uganda, and Senegal and will go into effect in the European Union, Turkey, and Moldova in May 2020.[3]

Ban on Capsule Cigarettes

These findings also show that flavor capsule packs appeal more to young adult Filipinos than flavored cigarettes without capsules and are associated with intention to try. They also highlight the innovative appeals, like technology descriptors and imagery, that are used on the packaging of flavor capsule cigarettes. Young adult Filipinos are attracted to the sensation of taste, as indicated by the ball imagery on the packs, and the colors of these packs. Our findings support a ban on capsules in cigarettes in addition to a flavor ban. While we did not note any non-flavored capsule cigarettes available on the market in the Philippines, there is reason to be concerned about the growth of the capsule cigarette market upon the announcement of a potential ban on flavored

tobacco products in the Philippines or the use of water capsules in the future. For example, when the province of Ontario in Canada announced a ban on flavored tobacco, the tobacco industry introduced capsules to the cigarette market and by the time the flavor ban went into effect, 20% of smokers in Ontario were regularly using capsule cigarettes.[4] Following the ban on flavored cigarettes in Canada in 2017, a water capsule cigarette (Camel North Aqua Filter) was brought to market.[5] Patents for water capsule cigarettes have also been filed in the past[6] and the tobacco industry has reported an interest in using water capsules to provide the sensation of coolness.[5]

In the absence of political will or public support for a complete ban on flavored cigarettes, a ban on flavor capsule cigarettes may also be considered. While it would likely not be as effective as a comprehensive flavor ban, it may still reduce consumer misperceptions and take some products off the market that are perceived as particularly attractive by young adult Filipinos. There is precedence for bans on flavor capsule cigarettes, including a ban on flavors in any tobacco product components, including capsules, in the European Union beginning in May 2020 and a ban on a select brand (Camel Crush menthol cigarettes) in the United States which is already in effect.[7] Additionally, in Germany in 2012, the Federal Office of Consumer Protection and Food Safety denied a tobacco company's request to sell a cigarette that included a menthol capsule.[3]

Plain Packaging

The findings also draw our attention to the use of graphic elements to create associations between packaging and product characteristics. For example, the associations between the color green and the descriptors "fresh" and "ice" with menthol flavoring, ball imagery with flavor capsules, and the descriptor "purple" with grape flavoring. Findings also demonstrate the power of packaging color, including shade and tone, to influence consumer perceptions of cigarette harm and appeal. These findings contribute to the growing evidence base that supports plain packaging

of tobacco products, meaning the removal of logos, colors, brand images, and promotion information from the packaging other than brand names and product names in a standard color and font style.[8]

These study findings indicate that a flavor ban on its own, including the removal of descriptors such as characterizing flavor names, may be insufficient to reduce misperceptions of packaging and decrease appeal because graphic packaging elements such as color, imagery, and alternative flavor descriptors (e.g. “purple”, “ice”) are widely associated with product characteristics such as flavor. This conclusion is supported by other research that finds that cigarette packaging following a ban on flavors or misleading descriptors, remains largely the same, utilizing alternative descriptors and imagery to connote product characteristics, and consumers are largely able to still identify their regular brand.[9–11] There is precedence for implementation of plain packaging, including in Asia where Thailand and Singapore recently adopted plain packaging.[12]

Addressing Tobacco Product Innovation

Product innovation is important to all product sectors and key to market growth. Product innovation can refer to the change in design of a product or introduction of a new product to the market. As found in Chapter 4, the new cigarette offerings to the market, identified based on pack design, were perceived by some young adult Filipinos to be indicative of an “improved” technology or formulation that implies less harm. One way to counter the misperceptions resulting from tobacco product innovation is to restrict the marketing and distribution of new tobacco products. For example, in the United States, new tobacco products may not be legally marketed without a tobacco product marketing order from the Food and Drug Administration (FDA).[13] In evaluation of new products, the FDA considers the product’s risk to the population and whether or not the product is substantially equivalent to a product already on the market.[13] A similar rule

could be helpful to apply in all markets, including the Philippines, where product innovation continues to play a key role in the tobacco industry's marketing strategy.

Communication Interventions to Reduce Misperceptions of Harm

These findings can also inform future public health communication efforts in the Philippines. It is concerning that young adults in the Philippines believe that some cigarettes are less harmful than others, whether due to design of the packaging or flavor. These misperceptions regarding relative harm can be addressed by communication interventions, such as social media campaigns, that dispel the fallacy that some cigarettes are less harmful than others.

STRENGTHS AND LIMITATIONS

This study has several strengths and limitations. In regards to strengths, this dissertation addresses several gaps in the literature. First, this dissertation addresses menthol flavored and flavor capsule cigarettes specifically in a lower middle income country context. Previous research has primarily focused on perceptions of menthol flavored and flavor capsule cigarettes in high income countries. Given that Philippines has one of the highest menthol market shares in the world and flavor capsule cigarettes are poised to contribute to the growth of this market, this research is needed. Secondly, while research that focuses on the marketing of menthol cigarettes exists, this research has largely focused on print advertisements at point-of-sale and in magazines, not on tobacco packaging. As many jurisdictions ban tobacco advertising in print media, electronic media, and at point-of-sale, packaging has become even more essential to the tobacco industry's marketing strategy. It was particularly important to examine the marketing of cigarettes in the Philippines via packaging given that packaging and advertising at point-of-sale, including display of tobacco packs, remains the last place for the tobacco industry to advertise in the country.

Another strength of this dissertation is its ability to inform advocacy efforts in the Philippines and urban areas in the region that results may be generalizable to. As early discussions on plain tobacco packaging in the Philippines take place, the findings of this dissertation can bolster tobacco control advocacy arguments and provide advocates with evidence to inform policy makers in the country regarding the impact of packaging. Findings on misperceptions regarding harm and the appeal of tobacco products to youth and young adults are often used to build arguments for regulations such as plain packaging and flavored tobacco bans. Further, this dissertation can inform further research efforts on this topic – this is discussed below.

Throughout the research process, partners in the Philippines who are local, knowledgeable of the public health landscape, and attune to ethical concerns in research, were involved. Our Manila-based partners were involved in the protocol development, data collection process, and interpretation of data and contributed substantially to the overall dissertation. Incorporating feedback from local experts was essential to addressing ethical concerns of the study, ensuring cultural appropriateness, and interpreting the data with local context at the forefront.

This dissertation, as a whole, utilized a multiphase mixed methods design. Qualitative and quantitative methodologies were both used in order to answer the overarching research questions and used together, allowed for better contextualization of the topic than using one method on its own. Given the lack of research on flavor capsule cigarettes, particularly when this research commenced, and that one data source was deemed insufficient to answer the research questions, this study design allowed us to build on findings as the research was carried out, informing each subsequent study and providing a more thorough understanding of the research topic.

Limitations of this dissertation include the use of cross-sectional data. By nature, the tobacco landscape is constantly changing given changes in factors such as tobacco control regulations, consumer demand, and the general market for tobacco products. Therefore, our understanding of the cigarette market in the Philippines is limited to the point of time in which data were collected. The current studies on consumer perceptions of packaging drew on knowledge from Chapter 3 which utilized data collected in 2016, as well as observations of the packaging on the market in 2019, however we observed some differences in the design of the cigarette packaging on the market between these two time points such as the removal of imagery such as electronic buttons and the lack of flavor offerings for flavor capsule cigarettes beyond menthol and mint or menthol or mint in addition to a "purple" flavor, demonstrating the changes to the tobacco market over time. These specific changes to the market were accounted for in the choice of packs used in focus group discussions and design of packs used in the experimental survey, but it is likely that some systematic differences between packaging of flavored cigarettes between 2016 and 2019 were unaccounted for.

Additionally, findings from the studies may not be fully generalizable to the Philippines in its entirety. The cigarette packs were collected in three major cities in the Philippines (Manila, Cebu, and Davao) and the focus group discussion and survey data were collected from participants residing in Manila. Therefore, findings may not extend to rural areas of the Philippines. However, findings are likely generalizable to highly populated urban areas in countries in the Asian Pacific region.

As this dissertation utilized a mixed methods multiphase design where each strand informed the subsequent strand, it must be noted that while we examined single marketing elements in Chapter 3, the study design used in Chapter 5 does not allow us to isolate the specific

structural or graphic elements that affect consumer perceptions of packaging. Instead, we aimed to design fictional packs that were overall, representative of the packs we observed on the market, based on results from Chapter 3, packs observed on the market in 2019, and focus group discussions held and detailed in Chapter 4. However, by designing packs meant to be representative of packs that exist on the market, we were able to maximize external validity.

AREAS OF FUTURE RESEARCH

Several areas of future research emerged based on this dissertation. Future research can provide us with a better understanding of consumer perceptions of flavored cigarettes and how the tobacco industry communicates product characteristics to consumers. Future research can also strengthen the evidence base for policies addressing flavored tobacco products and tobacco product packaging.

First, there seem to be significant changes to the menthol cigarette market in recent years with the introduction of blue menthol cigarette variants. While it has been suggested that "blue is the new green" in recently published literature,[14,15] our research is the first to describe the distinctions that consumers make between menthol cigarettes contained in green and blue packaging. We found that young adult Filipinos perceive green menthol as more harmful, but blue menthol as less harmful, even comparing it to candy. Existing research on menthol cigarettes finds that the majority of consumers do not believe menthol cigarettes are less harmful than non-menthol cigarettes or are uncertain.[16–18] Future research should distinguish between green and blue menthol and continue to examine consumer perceptions of relative harm, particularly among youth and young adults who use menthol cigarettes at higher rates.[17,19,20] In addition, future research could explore why young adults distinguish between green and blue menthol.

Second, our research is the first to describe and compare the differences between cigarette packaging that is categorized by flavor. However, our sample included only cigarette packaging from the Philippines. The methodology used to describe and compare differences across categories of cigarettes could be used in larger samples with packaging from several countries. This would allow us to describe and compare across countries. While marketing strategy differs across countries and different brands dominate different markets, we hypothesize that the tobacco industry utilizes specific graphic elements across countries to communicate product characteristics such as flavor and strength of cigarette. Future insights into this topic could aide our understanding of current research that finds that consumers are often able to identify their usual brand of cigarette following the implementation of bans on specific misleading descriptors.[9–11]

Third, the results of our study may not be generalizable to age groups outside of young adults, 18 – 24 years old. Adolescents are a particularly vulnerable population in regards to tobacco use. Research examining adolescent perceptions of flavor capsule cigarettes has been conducted in Mexico and Scotland and this research finds that adolescents are attracted to flavor capsule cigarettes and express a greater intention to try them compared to other cigarettes.[21,22] In focus group discussions, young adult Filipinos often cited youth or teenagers, in addition to their age group, as the perceived target audience for flavor capsule cigarettes. Understanding the perceptions of adolescents in the Philippines can inform our understanding of the appeal of flavor capsule cigarettes among the younger generations and provide a stronger argument for policies that regulate the sale of flavored cigarettes in the Philippines and in other jurisdictions.

CONCLUSION

As the global tobacco epidemic endures and the tobacco industry continues to innovate in order to build and retain their consumer base, it is imperative that we address industry tactics that target and appeal to younger demographics, as well as those that perpetuate misperceptions regarding the harms of tobacco. This dissertation contributes to the literature on the marketing of flavored cigarettes and consumer perceptions of menthol and flavor capsule cigarettes. The findings illuminate how cigarette packaging in the Philippines is used to create associations between the package and product characteristics and extend our understanding of young adult perceptions of flavored cigarettes. These results can inform advocates and policy makers that are considering policies that ban flavored tobacco products and strengthen tobacco packaging and labeling regulations as a strategy to reduce tobacco caused disease and death.

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APPENDICES

APPENDIX 1 – VARIABLES EXAMINED, STRAND 1: QUANTITATIVE CONTENT ANALYSIS

Structural component	Answer options
Pack type	Hard, soft, box, sachet
Opening style	Flip-top, cigar-box, push-pack, slide-pack
Shape	Traditional, wide, extra wide, lipstick
Slim pack	Yes/no
Beveled edges	Flattened/rounded/no
Number of sticks	20, 14, 10, 5
Graphic component	**Answer options**
Colors of packaging	Red, orange, yellow, green, blue, purple or violet, pink, brown, black, white, grey, gold, silver
Color descriptors	Red, orange/amber, yellow, green, blue, violet/purple/lilac, pink/rose, brown, black, white, grey, gold, silver
Filter color	Cork/tan, white, black, brown
Stick detail	Brand family name, brand family image, descriptor or written appeal, color carried through, pattern/design carried through, novel color, novel pattern/design
Technology descriptors/imagery	Technology mention, secondary technology terms, on/off terminology, innovation terminology, odor reducing terminology, buttons, flavor capsule illustration, stick filter illustration
Environmental, civic responsibility descriptors/imagery	Environmentalism terminology, civic responsibility mention, recycling symbol or signs
Organics and nature descriptors/imagery	“Natural”, “organic”, tobacco plant/leaf terms, nature terminology, space/star terminology, plant/seedlings/tobacco, landscape/nature scenes, space/star imagery
Processing of tobacco descriptors	“Blended”, “blend”, “mixture”, “sun-ripened”, “slow-roasted, “toasted”, “no added flavor”, “no additive”, “pure”
Luxury and quality descriptors/imagery	“Quality”, “fine”, “special”, “premium”, gold, precious stone references, “exported”, “imported”, “luxury”, master/professional/expert terms, crown or precious stone images, five-star image, expensive or luxurious item images
Classic/timeless descriptors/imagery	“Classic”, “original”, “signature”, traditional/authentic/genuine terms,

	since/established terms, crest/seal images, castle/Pegasus images, signature
Femininity descriptors/imagery	Flower terms, fashion terms, synonyms for "slim", "lady", "girl", flowers/butterflies, fashion imagery, pastel colors, female form
Masculinity descriptors/imagery	Cars, vehicles, male form, sports images
Youth descriptors/imagery	Cartoons, toys/games, sports, music images
National descriptors/imagery	Geographic location, famous structures, famous landscapes, famous resident/leaders, country animals, mythical creatures
Foreign/international (not US) descriptors/imagery	"International", "world", geographic location, famous structures, famous landscapes, famous resident/leaders
United States descriptors/imagery	America/US mention, US geographic location, "Virginia", famous resident, US flag, US landscape or architecture, eagle, Native American, famous resident
Less harm descriptors/imagery	"Light/lights", "mild", "low", "safe", "soft/smooth/mellow", qualitative description of nicotine, tar, carbon monoxide levels, numbers indicating strength, image of filter, dots indicating strength
Taste/sensation descriptors	"taste", "rich", "fresh/freshness/refreshing", "cool/ice/cold/chill/frost", "relax/relaxing", "pleasure/satisfaction/enjoyment", "sensation", aroma or smell terms

APPENDIX 2 – FOCUS GROUP DISCUSSION GUIDE, STRAND 2: FOCUS GROUP DISCUSSIONS

Focus Group Guide

PI Name: Dr. Joanna Cohen
Study Title: Menthol flavored and flavor capsule cigarettes: A mixed methods study examining packaging and consumer perceptions in the Philippines
IRB No.: IRB00008477
PI Version No. / Date: Version No. 3/ February 28, 2019

Welcome

Welcome and thank you for being here today. Your presence and participation here is very important. My name is _____ - I work here at GoodThinking and I will be moderating today's discussion. Joining us today is _____ and he/she will be taking notes and helping us out with meeting logistics. We are partnering with Johns Hopkins University on this project and on the other side of the glass, we have a student, Jennifer Brown, joining us and _____, who is also staff at GoodThinking and will be translating today's discussion into English for Jennifer. The purpose of today's discussion is to hear your views and opinions about different cigarette packs. Your views are very important to us and we appreciate your time. We will have about one hour and a half for discussion. Your participation is entirely voluntary and you are free to decline to participate in this study or stop participating at any time.

Ground rules

Before we begin, I would like to review what today's session will look like and go over some ground rules. First, we would like for everyone to participate as you feel comfortable and we would like the discussion to be informal, so there is no need to raise your hand before speaking. We encourage you to respond to each other's comments. Please just remember to speak one at a time so we can hear everyone's opinions and be respectful of not speaking over each other.

I might interrupt at some points during the conversation to make sure we have enough time to cover all of the topics. If you don't understand a question, please let us know. And remember there are no right or wrong answers – we just want to know your views on the topics we are discussing. We are here to ask questions, listen, and make sure everyone has a chance to share.

As you were told during the screening process, we will be video recording today's discussion. We will not use this recording for any other purpose than for this project and we will keep identities anonymous when analyzing the data. Some of the things you say today will be shared, but no one will know your identity.

Here are a few ground rules before we start:

- Please turn your cell phone off or to silent. This session will last no longer than 90 minutes.
- Please speak one at a time and do not have side conversations.
- Please speak clearly so that the video recorder will pick up what you are saying.
- There are no right or wrong answers, and we may have different points of view. We encourage you to talk to each other, to add thoughts that are inspired by each other's comments, and to share reactions or disagreements with respect.
- Please keep others' identities confidential after you leave. We also will not repeat who was at this meeting or who made what comments.
- In order to maintain confidentiality, please only introduce yourself using your first name or nickname and do not refer to each other by your full names during the session.
- As mentioned before, your participation is entirely voluntary and you are free to decline to participate in this study or stop participating at any time.

Are there any questions before we get started?

Icebreaker

Let's start off by introducing ourselves! We will go around the circle – please introduce yourself by your first name and tell us if you were an animal, what would you be and why. I'll start!

Cigarette grouping and ordering activity

>>Lay harmfulness scale and packs out on table in front of participants.<<

Now we are going to show you some cigarette packs that are currently sold legally on the market here in the Philippines. We are also going to lay out a large piece of paper where we have drawn a scale for harmfulness. One end of the scale is "most harmful" and the other end is "least harmful". We would like to know where on the scale you would place these packs. Feel free to look at the packs for a moment, pass them around, and view all sides of the packaging. Spend a few minutes without talking and write down your thoughts on the paper provided. In your assessment, disregard the health warning labels. If you think some packs fall at the same place along the scale, feel free to lay them out vertically. In a few minutes, we will ask you to discuss as a group and place the packs on the scale where you think they belong. When you refer to individual packs in the discussion, please refer to them by the number on the front side of the pack. They have been numbered randomly and in no particular pattern in order to be able to reference them easily during discussion.

>>Participants view packs and make notes.<<

1. How would you group these packs?

Probe: Why do these packs belong together?

Probe: How do these groups of packs differ?

Probe: Would anyone rank group these packs in a different way?

2. How would you rank these packs in terms of harmfulness?

Probe: Why are these packs ranked as the most harmful and these as the least? (e.g. descriptors, color, flavor, etc.)

Probe: Does anyone disagree with this ranking? What packs would you move around?

>>Take a picture of how packs are sorted on scale. Remove packs from harmfulness scale and lay packs (in no particular order) and attractiveness scale out on table in front of participants.<<

Now let's do the same activity with these packs but on a scale of attractiveness with one end of the scale being "most attractive" and the other end "least attractive". Again, take a few moments without talking and make some notes on your piece of paper. In a few minutes, we will ask you to discuss as a group and place the packs on the scale where you think they belong. Again, if you think some packs fall at the same place along the scale, feel free to lay them out vertically.

>>Participants view packs and make notes.<<

3. How would you rank these packs in terms of attractiveness?

Probe: Why are these packs ranked as the most attractive and these as the least? (e.g. shape, color, design, etc.)

Probe: What is the most important attribute of the pack that contributes to its attractiveness? (e.g. shape, colors, design, etc.)

Probe: Does anyone disagree with this ranking? What packs would you move around?

>>Take a picture of how packs are sorted on scale. Remove packs from attractiveness scale and lay packs (in no particular order) out on table in front of participants.<<

Now we would like you to tell us how you would group these packs in terms of flavor. Spend a few minutes without talking and write down your thoughts on the paper provided. In a few minutes, we will ask you to discuss as a group and organize the packs into piles based on flavor.

>>Participants view packs and make notes.<<

4. How would you group these packs by flavor?

Probe: What flavors would you label these as by group?

Probe: Why do these packs belong together?

Probe: How do these groups of packs differ?

Probe: Would anyone group these packs in a different way?

Probe: What indicates that these packs are X flavor? *>>Ask specifically about packs labeled "fresh" and "icy" or "cooling"<<*

>>Take a picture of how packs are sorted by group. Remove packs from table.<<

Interpreting descriptors and imagery

>>Display packs with capsule-related descriptors such as "click on", "switch", "activate" and "2 in 1"<<

5. What do you think these descriptors communicate about the cigarettes inside the pack?

Probe: What information makes you think this? (Packaging, associated ads, experience with the product, etc.)

>>Display packs with ball imagery and/or image of stick filter<<

6. What does this imagery on packs communicate to you about the cigarettes inside the pack?

Probe: How did you glean this information? (Packaging, associated ads, experience with the product, etc.)

>>Display packs with power button/play buttons/skip track button imagery<<

7. What does this imagery on packs communicate to you about the cigarettes inside the pack?

Probe: What information makes you think this? (Packaging, associated ads, experience with the product, etc.)

>>Display packs with a menthol and "purple" flavor<<

8. What flavors do you think the cigarettes in these packs are?

Probe: If your mouth could talk, what would it say about the "purple" flavor?

Probe: What indicates that this pack is X flavor?

Audience

>>Display select packs that vary by flavor and product characteristics one by one.<<

9. What kind of person would smoke the cigarettes inside of this pack? For example, males, females, cool people, not cool people, attractive people, unattractive people, young people, old people, etc.?

Probe: Why?

Probe: Is there a kind of person who you think would never smoke these cigarettes?

>>Ask health warning question if there is time. If not, skip to closing question.<<

Health warnings

10. Do the health warning labels detract from the packaging?

Probe: Why?

Closing

11. Are there any other impressions about these packs that you haven't been able to share yet?

Thank you so much for your time and participation. We learned a lot from your thoughts and opinions. Your participation in this study is complete. We ask that you respect one another's privacy after you leave here today and don't share information about the individual ideas expressed in this group.

We want to make sure you are informed about the serious health impact of smoking and will now distribute information on this topic.

>>Turn off recorder and distribute gift cards and debriefing materials.<<

APPENDIX 3 – FOCUS GROUP DISCUSSION CODEBOOK, STRAND 2: FOCUS GROUP DISCUSSIONS

Theme	Code	Subcode	Description	Examples of use of code
Manufacturer			Reference to designer or manufacturer of the pack	"It seems as though that the graphic artist settled for less creativity."
Notice on market			Responses to question asked by moderator, "What do you notice about cigarette packs on the market these days?"	n/a
Spontaneous groupings			Responses to activity presented by moderator to group cigarette packs	n/a
Cognition	Semantic interpretation	Filter technology	Reference to the cigarette filter, in terms of technology or effectiveness	"Well, of course… those ones were perhaps made with old formulations, so it can follow that they were not thoroughly filtered. They seem to lack in technology."
		Nicotine content	Reference to nicotine levels	"They seem to be typically flavored. The nicotine content is so faint, you could hardly taste it."
		Harm	Reference to the degree of harmfulness of the product and/or discussion of product in response to questions regarding harmfulness	"It is as if the product was done haphazardly, and to me, it means harmfulness."
		Cigarette ingredients	Reference to chemical content, tobacco inside cigarette, cigarette formulation, etc.	"It is suggestive of the concentration of the formulation."

	Aesthetic impression		Reference to degree of appeal, attractiveness of pack and/or discussion of product in response to questions regarding attractiveness	"Because it is very colorful… in other words, it's more attractive to the customers."
	Symbolic association		Reference to how cigarette sends message about the person who is using it	"It's as if the next thing you'd think is this the cigarette of someone who rides some flashy car."
Flavor/taste	Cold/cool		Describes cold or cool as the flavor of the cigarette or the sensation in mouth caused by cigarette	"These ones over here are just cool, but these are extremely cool in the mouth."
	Wood		Describes wood as the flavor of the cigarette	"These ones taste like wood…"
	Mint		Describes mint as the flavor of the cigarette.	"It really gives a blast of mint, but there is no after-effect, no other taste but the mint"
	Menthol		Describes menthol as the flavor of the cigarette or response to prompting by moderator of discussion about menthol cigarettes	"Just by looking at them, you'd know they're mentholated."
	Sweet		Describes the cigarette as tasting sweet	"S2 is something that would make you think "well this just gives a sweet taste""
	Candy		Describes candy or a specific candy like Mentos or Snowbear as flavor of the cigarette	"It's similar to a candy. It's like Mentos…"
	Strong		Describes the cigarette as strong or hard or generally	"The red ones are the strongest of the variants. "

			refers to the strength of the cigarette	
	Light		Describes the cigarette as light or mild.	"...it seems light, it is only for women."
	Fruit		Describes cigarette as "fruit" flavored or "fruity" or as any other fruit other than grape	"Similar to cherry." or "Fruity."
	Flavored		Describes cigarette as being "flavored"; no specific flavor mentioned	"But that is flavored."
	Grape		Describes grape as the flavor of the cigarette	"It tastes like grapes."
Consumer	Characteristics		Describes characteristics of the typical consumer such as "rich", "party-goer", "heavy drinker", "classy"	"She could be a party goer…"
	For masses		Describes how the cigarette could be used by a range of people/not specific to one group of consumer, refers to popularity or widespread use of pack	"Or even for everyone."
	Occupation		Describes job or student status of typical consumer	"They work. In Call centers."
	Gender	Male	Description of typical consumer being male or someone who is masculine	"I think male consumers will find it attractive."
		Female	Describes typical consumer being female or someone who is feminine	"Esse is the common cigarette being used by the women works in the KTV bars. It's lighter."

	Sexual orientation		Reference to sexual orientation of typical consumer for product	"It's for the gay people."
	Urban/rural		Description of typical consumer being from an urban area or a province in the Philippines	"Judging the packaging, I'd say that what would be appealing to the city dwellers is the "flip top" box" or "But strictly for those who are stuck in the traditional way of smoking… like those in the province, whose cigars are lit inside their mouth..."
	Age/stage of life	Grandparent/old	Describes typical consumer as old or as a grandfather or grandmother; references to "oldies"	"For grannies"
		Millennials	Describes typical consumer as a "millennial" specifically	"That will appeal to millennials."
		Young	References youth (younger than 18 years) or young adults (18-24 years) as typical consumers or target audience, including references to themselves as a group	"Probably late teens to 20s.."
		Middle-aged	Describes typical consumer as being a mother, father, or in the 30-50 year age range	"Parents will surely try it."
	Stage of smoking	Beginner smoker	Description of typical consumer as someone who has not smoked before or who is new to smoking	"For me QD has colors which make it more exciting to buy specially for beginners. You will get curious about how it taste like."
		Regular smoker	Description of typical consumer as someone who smokes	"They seem to entice mature smokers."

			regularly, has been smoking a while, is a mature smoker, and/or is addicted	
	Situational/consumer goals	Availability/no alternatives	Reference pack as being used only under circumstances where there or no other alternatives or packs being used due to availability/lack of availability of other packs	"You will only buy Fortune when you have no choice. That's the brand closest to Marlboro."
		Social	Reference pack as being for use at parties or to look cool	"These boxes with gradient colors. They look suitable for clubs and gigs." or "Even if it does not taste good, but for the sake of being seen cool and up for smoking..."
References	Visual	Similar to other cigarette	References to reason one holds associations with pack is due to its resemblance to other packs	"It has something to do with the color, since they have a strong semblance."
		Color convention	References to associations made between pack and flavor/taste or strength of the cigarettes	"So if the pack is predominantly green, chances are, it is mainly mentholated."
		Similar to other product	Reference to pack looking like a product other than tobacco; for example, toothpaste, soap, candy	"the packaging does not look like a cigarette, rather like a candy box."
	Environmental	Point-of-sale	Describes reason for perception of pack being because they have seen it at point-of-sale (in store)	"Retail stores don't usually sell brands like Camel… Whereas the usual brands will Marlboro, Winston, Fortune…"
		Personal experience	Reference to smoking the cigarette before or description	"I used to smoke the lights… it almost tasted like wood, but

			of taste, harshness, etc. of cigarette due to having tried it	lighter in effect. I find it kind of discomforting on the throat…"
		Popularity	Reference to the popularity of the pack or the regularity at which the pack is purchased.	"Only recently did this become popular. This is the first brand I tried."
		Observation of smokers	References to observing another person smoking, purchasing, discussing the pack, including strangers, acquaintances, family and friends	"If I would remember it well, I saw one Korean smoking this and it's as if there is nothing that can be ingested from it, so much that I think it will just leave you with a gassy stomach."
	Price/affordability		References to price of pack or pack being or appearing "cheap", "affordable", or "expensive"	"If the product is that cheap, it follows that it is downright harmful for its chemical content."
	Brand		Reference to specific brand associations or general importance of brand of cigarette in assessment of the pack	"If we're being honest here, it is the brand that attracts the customers. If the name is not popular, we do not usually get attracted to it."
Graphic components	Color	Combination/blend	References to the combination of colors used on pack (including colors complementing each other) or the blending of the colors	"The way colors were blended and complemented seems very cool and ingenuous."
		Tone/shade/tint	References to "shade" of color or descriptions of color as "dark", "light", "dull", "bright", "vibrant", etc.	"The dark tone creates some sense of eeriness."

		Hue	Reference to specific color of pack such as blue, green, purple, etc. or mix of colors; includes black and white	"Most of them are dark green, but a bearable green; unlike that of plain or dull green."
	Finishes		References to the coating of the packaging or specific design elements that make them look matte, shiny, glossy, etc.	"Actually, it will be more attractive in minimal light, especially in clubs, because of its luminous effect."
	Typography		References to the lettering, letters, or font on pack	"The way words were lettered creates a classy effect."
	Imagery	Capsule	Mention of capsule/ball/"pop" design on pack or impressions of capsule when prompted by moderator	"For instance, this is menthol, but this one is menthol-ish, but this one has something you need to pop..."
	Descriptors	"Purple"	Description of associations when the descriptor, "purple" appears on pack, either when prompted by moderator or based on own observation	"It's like menthol with flavor of grapes. cold…"
		"Ice"	Description of associations when the descriptor, "ice" appears on pack, either when prompted by moderator or based on own observation	"You cannot really taste anything, except for the cool oral sensation."
		"Fresh"	Description of associations when the descriptor, "fresh" appears on pack, either when prompted by moderator or based on own observation	"Cold in the mouth."

Structural elements	Size		References to the width or height of pack and/or cigarettes or explicit references to the "size" of the pack	"Even the length of the stick says they are different. Unlike these ones, which are shorter."
	Pack type		Description of pack as hard or soft	"I also noticed that soft packed cigarettes are getting seldom seen nowadays."
	Opening style		Description of pack as flip top or otherwise	"I'd say that what would be appealing to the city dwellers is the 'flip top' box."
Affective response	Scared		References to pack evoking feelings of fear	"I find it terrifying, but I also find it difficult to quit smoking…"
	Surprise		References to pack being unfamiliar, unique, "fresh to the eyes", or novel	"It's fresh to the eyes…"
	Interest		References to pack evoking feelings of curiosity, excitement, or boredom; references to packs as "enticing"	"It rouses the curiosity, in fact…"
Smoking sensation	Physical feeling		Description of physical feeling that smoking cigarette from pack would cause including the sensation throat, dizziness, etc.	"not only that, but it kind of leaves a burning sensation in the throat."
	Smell		Reference to the smell or odor of the cigarette	"These ones are really strong and the odor lingers on the clothes and it's sort of disgusting. As opposed to these ones here, which smells like menthol, as if you did not smoke, and just had some candies."

Health warnings	Positive impact		Indication that warning would make someone stop smoking, keep someone from starting smoking	"I think this works for the younger ones as an appeal to fear."
	Negative impact		Indication that warning would not have any effect on the consumer or only an effect on some consumers, not including themselves	"Even if we know its harmful effect, we'd just be like fools going on…"
Pack design	Simple/plain		Reference to the overall design of the pack being simple or plain	" The design is plain."
	Old		Reference to the overall design of the pack or the formulation of the cigarette being old, "traditional" or the same as it was when it was introduced to the market	"Fortune and Mighty, for instance, did not change their design."
	New		Reference to the overall design being new or modern or descriptions of changes to the pack since it was introduced to the market	"Unlike these ones with a more modern touch, they seem to have an improved formulation or flavor."
	Descriptions	Feminine	Reference to pack being "feminine" or "girly"	"It seems girly."
		Classy	Reference to pack as "classy" or sophisticated	"it's got to do with color. Simple, yes, but classy."
		Cool	Reference to pack as "cool" (not including the flavor) or trendy	"These ones just looks cool and badass."
		Cute	Reference to pack being "cute"	"It looks cute, though."

		Tough	Reference to pack looking "tough"	"I want to taste this one because it’s in strawberry flavor. It looks tough."
		Imported	Reference to pack being imported	"They also look imported. Like they’re for the rich and the famous."

APPENDIX 4, SURVEY QUESTIONNAIRE (ENGLISH), STRAND 3: SURVEY

Survey Questionnaire

PI Name: Dr. Joanna Cohen
Study Title: Menthol flavored and flavor capsule cigarettes: A mixed methods study examining packaging and consumer perceptions in the Philippines
IRB No.: IRB00008477
PI Version No. / Date: Version No. 2/ July 5, 2019

By observation of the researcher:

Area Information

Barangay Control No. _____

Barangay: _____

Municipality: _____

Neighborhood Location of the House

a. Exclusive subdivision/expensive neighborhood, townhouses, condominium. If in a mixed neighborhood, it must have a fence at least.
b. Mixed neighborhood of larger and smaller houses, with predominantly larger houses.
c. Generally, found in mixed neighborhood with houses larger or smaller than it.
d. Found mostly in neighborhoods of houses with generally the same size, with occasionally large sizes.
e. Located in generally slum district interior or rural houses.

HAND TABLET TO POTENTIAL PARTICIPANT

Eligibility

These questions are to determine if you are eligible to participate in the study. If you are not eligible, you won't be able to complete the survey.

1. How many years old are you? _____

PREFER NOT TO RESPOND

[CONTINUE if respondents are 18-24 years old. DISCONTINUE if respondents are younger than 18 years, older than 24 years, or do not provide age.]

The next questions are about your cigarette smoking behavior.

2. Have you ever smoked a cigarette, even one or two puffs?
    a. Yes
    b. No
    c. PREFER NOT TO RESPOND

    2a. If one of your best friends were to offer you a cigarette, would you smoke it?

        a. Definitely yes
        b. Probably yes
        c. Probably not
        d. Definitely not
        e. PREFER NOT TO RESPOND

    ASK: Respondents who have never tried a cigarette.

    2b. Have you ever been curious about smoking a cigarette?

        a. Very curious
        b. Somewhat curious
        c. A little curious
        d. Not at all curious
        e. PREFER NOT TO RESPOND

    ASK: Respondents who have never tried a cigarette.

    2c. Do you think that you will try a cigarette soon?

        a. Definitely yes
        b. Probably yes
        c. Probably not
        d. Definitely not
        e. PREFER NOT TO RESPOND

ASK: Respondents who have never tried a cigarette.

3. Do you now smoke cigarettes…
    a. Every day
    b. Some days
    c. Not at all
    d. PREFER NOT TO RESPOND

ASK: Respondents who have ever smoked.

4. How many cigarettes have you smoked in your entire life? A pack usually has 20 cigarettes in it.
    a. 1 or more puffs but never a whole cigarette
    b. 1 to 10 cigarettes (about ½ pack total)
    c. 11 to 20 cigarettes (about ½ pack to 1 pack)
    d. 21 to 50 cigarettes (more than 1 pack but less than 3 packs)
    e. 51 to 99 cigarettes (more than 2 ½ packs but less than 5 packs)
    f. 100 or more cigarettes (5 packs or more)
    g. DON'T KNOW
    h. PREFER NOT TO RESPOND

ASK: Respondents who have ever smoked.

[CONTINUE if respondent smoking status can be determined. DISCONTINUE if respondents answer "PREFER NOT TO RESPOND" to questions 2 – 4 and smoking status cannot be determined.]

PLEASE RETURN TABLET TO THE RESEARCHER

FOLLOWING INFORMED CONSENT PROCESS, HAND TABLET TO PARTICIPANT

Cigarette brand preference

5. During the past 30 days, what brand of cigarettes did you smoke **most often**?

    Select from the choices below. If you do not see it below, select the box marked "Other" and enter the brand. If you're not sure how to spell the brand, just make your best guess.

    Al Hambra
    Bataan

Bohem Café Iced Coffee Flavor
Bohem Café Orange Coffee Flavor
Bohem Mojito Double
Camel Original
Camel Max Mint
Camel White
Capri Menthol
Champion Menthol
Chelsea Full Flavor
Chelsea Platinum
Chelsea Menthol 100s
Chesterfield Rich
Chesterfield Mint Capsule
DJ Mix Blueberry
DJ Mix Green Apple
DJ Mix Strawberry
Esse POP
Esse Blue
Esse Green
Fortune International Original
Fortune International Menthol 100s
Fortune Tribal Blue Label
Fortune Tribal Red Label
Fortune Tribal Mint Splash
Freedom Select Menthol 100s
Hope Luxury Menthol 100s
Hope Luxury Menthol Kings
Jackpot International
Jackpot International Menthol 100s
King Full Flavor
King Platinum
King Menthol 100s
La Campana
L&M Fast Forward 2 in 1 Menthol Capsule (blue packaging)
L&M Fast Forward 2 in 1 Menthol Capsule (red packaging)
Mark Premium Menthol 100s
Marlboro Red
Marlboro Gold
Marlboro White Menthol
Marlboro Black Menthol

Marlboro Ice Blast
Marlboro Premium Black
Marlboro Ruby Burst
Marvels Filter Kings
Marvels Menthol 100s
Memphis
Mevius Wind Blue
Mevius Original
Mevius Sky Blue
Mevius Option Duo
Mighty Full Flavor King Size (red packaging)
Mighty Full Flavor King Size (black packaging)
Mighty Menthol King Size
Mighty Menthol 100s
Mild Seven
More International Premium Blend
Philip Morris Menthol 100s
Winnsboro Filter King
Winston Red
Winston Extreme Mint
Winston Infinimint
Winston Caster Blend
Winston Blue
Winston Purple Mint
OTHER _____
PREFER NOT TO ANSWER

ASK: If respondent is current smoker.

****EXPOSURE TO PACKAGING STIMULI****

The next questions are about the product that is pictured here. When answering the questions below, please focus on the entire pack.

[Display pack with design.]

Perceived harm

How harmful is this product is to your health?

a. Not at all harmful

b. Slightly harmful
c. Somewhat harmful
d. Very harmful
e. Extremely harmful
f. DON'T KNOW
g. PREFER NOT TO RESPOND

6. Compared to other cigarettes, how harmful is this product to your health?
    a. Much less harmful
    b. A little less harmful
    c. No different
    d. A little more harmful
    e. Much more harmful
    f. DON'T KNOW
    g. PREFER NOT TO RESPOND

Perceived nicotine content

7. Compared to other cigarettes, how much nicotine do you think this product has?
    a. A lot less nicotine
    b. A little less nicotine
    c. About the same
    d. A little more nicotine
    e. A lot more nicotine
    f. DON'T KNOW
    g. PREFER NOT TO RESPOND

Perceived appeal

8. Rate your agreement with the following statements on a scale of 1 (strongly disagree) to 7 (strongly agree):

	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Strongly agree	PREFER NOT TO RESPOND
This is an attractive								

cigarette package.								
This cigarette package is pleasing to see.								
I like to look at this cigarette package.								

Intention to try

9. What is the chance that you will try this product in the next six months?
    a. Very likely
    b. Somewhat likely
    c. Somewhat unlikely
    d. Not at all likely
    e. PREFER NOT TO RESPOND

10. What is the chance that you will try this product in your life?
    a. Very likely
    b. Somewhat likely
    c. Somewhat unlikely
    d. Not at all likely
    e. PREFER NOT TO RESPOND

Symbolic association

11. In your opinion, someone who chooses to smoke this brand is more likely to be… (choose one from each pair)

Female	Male	PREFER NOT TO RESPOND
Old	Young	PREFER NOT TO RESPOND
Regular smoker	Beginner smoker	PREFER NOT TO RESPOND
Cool	Not cool	PREFER NOT TO RESPOND
Exciting	Boring	PREFER NOT TO RESPOND
Popular	Not popular	PREFER NOT TO RESPOND
Attractive	Unattractive	PREFER NOT TO RESPOND
Classy	Not classy	PREFER NOT TO RESPOND

Affect

12. This package made me feel…

	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Strongly agree	PREFER NOT TO RESPOND
…happy								
…scared								
…curious								
…bored								
…excited								

The next questions are about the product that is pictured here. When answering the questions below, please focus on the entire pack.

[Display plain pack.]

Perceived harm

13. How harmful is this product is to your health?
    a. Not at all harmful
    b. Slightly harmful
    c. Somewhat harmful
    d. Very harmful
    e. Extremely harmful
    f. DON'T KNOW
    g. PREFER NOT TO RESPOND

14. Compared to other cigarettes, how harmful is this product to your health?
    a. Much less harmful
    b. A little less harmful
    c. No different
    d. A little more harmful
    e. Much more harmful
    f. DON'T KNOW
    g. PREFER NOT TO RESPOND

Perceived nicotine content

15. Compared to other cigarettes, how much nicotine do you think this product has?
    a. A lot less nicotine
    b. A little less nicotine
    c. About the same
    d. A little more nicotine
    e. A lot more nicotine
    f. DON'T KNOW
    g. PREFER NOT TO RESPOND

Perceived appeal

16. Rate your agreement with the following statements on a scale of 1 (strongly disagree) to 7 (strongly agree):

	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Strongly agree	PREFER NOT TO RESPOND
This is an attractive cigarette package.								
This cigarette package is pleasing to see.								
I like to look at this cigarette package.								

Intention to try

17. What is the chance that you will try this product in the next six months?
    a. Very likely
    b. Somewhat likely
    c. Somewhat unlikely
    d. Not at all likely
    e. PREFER NOT TO RESPOND

18. What is the chance that you will try this product in your life?
    a. Very likely
    b. Somewhat likely
    c. Somewhat unlikely
    d. Not at all likely
    e. PREFER NOT TO RESPOND

Symbolic association

19. In your opinion, someone who chooses to smoke this brand is more likely to be… (choose one from each pair)

Female	Male	PREFER NOT TO RESPOND
Old	Young	PREFER NOT TO RESPOND
Regular smoker	Beginner smoker	PREFER NOT TO RESPOND
Cool	Not cool	PREFER NOT TO RESPOND
Exciting	Boring	PREFER NOT TO RESPOND
Popular	Not popular	PREFER NOT TO RESPOND
Attractive	Unattractive	PREFER NOT TO RESPOND
Classy	Not classy	PREFER NOT TO RESPOND

Affect

20. This package made me feel…

	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Strongly agree	PREFER NOT TO RESPOND
…happy								
…scared								
…curious								
…bored								
…excited								

Demographics

The next questions are about you and your parents or guardians.

21. What is your gender?
    a. Female
    b. Male
    c. Another gender
    d. PREFER NOT TO RESPOND

22. What is the highest level of education you have completed?
    a. No grade completed
    b. Preschool
    c. Elementary undergraduate
    d. Elementary graduate
    e. High school graduate
    f. Post secondary
    g. College undergraduate
    h. College graduate
    i. Post graduate degree complete
    j. PREFER NOT TO RESPOND

23. Although most people read every survey question, some do not. Please select the word “dog” from the list below.
    a. Cat
    b. Bird
    c. Dog
    d. Elephant
    e. Lion
    f. Mouse
    g. Bear
    h. Giraffe

Please complete the following questions for up to two parents/guardians (one whose care you were in legally).

24. Parent/guardian #1: What is your parent/guardian's highest level of education completed?
    a. No grade completed
    b. Preschool
    c. Elementary undergraduate
    d. Elementary graduate
    e. High school graduate
    f. Post secondary
    g. College undergraduate
    h. College graduate
    i. Post graduate degree completed
    j. DON'T KNOW
    k. PREFER NOT TO RESPOND

25. Parent/guardian #2: What is your parent/guardian's highest level of education completed?
    a. No grade completed
    b. Preschool
    c. Elementary undergraduate
    d. Elementary graduate
    e. High school graduate
    f. Post secondary
    g. College undergraduate
    h. College graduate
    i. Post graduate degree completed
    j. I only have one parent/guardian
    k. DON'T KNOW
    l. PREFER NOT TO RESPOND

26. Which of the following best describes your main work status over the past 12 months?
    a. Government employee
    b. Non-government employee
    c. Self-employed
    d. Student

e. Housekeeper
f. Retired
g. Unemployed, able to work
h. Unemployed, unable to work
i. PREFER NOT TO RESPOND

27. In which of the following ranges does your monthly household income fall?
    a. No income
    b. P8,000 or below
    c. P8,001 to P15,000
    d. P15,001 to 30,000
    e. P30,001 to P50,000
    f. P50,001 to P70,000
    g. P70,001 to P100,000
    h. P100,001 to P150,000
    i. P150,001 to P200,000
    j. More than P200,000
    k. PREFER NOT TO RESPOND

28. What is your current civil status?
    a. Single
    b. Married
    c. Separated
    d. Widow
    e. Single Parent

29. What is your current living situation?
    a. I live alone.
    b. I live with my parents.
    c. I live with other family (other than parents).
    d. I live with roommates that are not family.

e. PREFER NOT TO RESPOND

30. How many household members live here? _____

31. How many household helpers (e.g. maids, drivers, etc.) do you have? _____

32. Does your current household have any of the following items?

	Yes	No	DON'T KNOW	PREFER NOT TO RESPOND
a. Blender				
b. Broadband internet				
c. Digital camera				
d. Electric Stove				
e. Floor Polisher				
f. Home gaming system (PlayStation, Xbox, Wii, etc.)				
g. Microwave oven				
h. Oven toaster				
i. Range with oven				
j. Rice cooker				
k. Video camera				
l. Water Dispenser				
m. Water pump				
n. Air conditioner				
o. Electricity				
p. Flush toilet				
q. Fixed telephone (landline)				
r. Cellular phone				
s. Television				
t. Radio/Radio cassette				
u. Refrigerator/Freezer				
v. Washing machine				
w. CD/VCD/DVD Player				
x. Component/Karaoke				
y. Personal computer				
z. Laptop				
aa. Car/Jeep/Van (New – five years old or less)				

bb. Car/Jeep/Van (Old – more than five years old)				
cc. Scooter/motorcycle/tricycle				
dd. Bicycle/pedicab				
ee. Tractor				
ff. Motorized banca/boat				

PLEASE RETURN TABLET TO RESEARCHER

By observation of the researcher:

Indoor Quality/House Maintenance

a. Well-painted, not in need of repair
b. Well-painted but may need a new coat of paint and some minor repairs
c. Painted but needs a new coat of paint and needs some repairs
d. Generally unpainted and badly in need of repair
e. Unpainted and dilapidated

Outdoor Quality/Durability of Home

a. Heavy high quality materials (concrete, wood and concrete, first class wood, bricks), permanent
b. Of good quality materials (wood and concrete, or first class wood), generally permanent
c. Of mixed light and heavy materials, poorly constructed, semi-permanent
d. Of light and cheap materials, poorly constructed, semi-permanent
e. Temporary structure, barong-barong type of a poorly constructed one-room affair

CURRICULUM VITAE

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EDUCATION

Johns Hopkins Bloomberg School of Public Health
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University of North Carolina Gillings School of Global Public Health
Department of Health Behavior
Master of Public Health (MPH) 2012

- Certificate in Interdisciplinary Health Communication
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University of California, Santa Barbara
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FELLOWSHIPS & AWARDS

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PUBLICATIONS

Peer-Reviewed Journal Articles

Brown, J. L., Clegg Smith, K., Zhu, M., Moran, M. B., Hoe, C., Cohen, J. E. (2019). Menthol and flavor capsule cigarettes in the Philippines: A comparison of pack design. *Tobacco Induced Diseases*, 17(November), 76. https://doi.org/10.18332/tid/112718

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Myrick, J. G., Noar, S. M., Willoughby, J. F., & **Brown, J.** (2014). Public Reaction to the Death of Steve Jobs: Implications for Cancer Communication. *Journal of Health Communication*, *19*(11), 1278–1295. https://doi.org/10.1080/10810730.2013.872729

Noar, S. M., Willoughby, J. F., Myrick, J. G., & **Brown, J.** (2014). Public Figure Announcements About Cancer and Opportunities for Cancer Communication: A Review and Research Agenda. *Health Communication*, *29*(5), 445–461. https://doi.org/10.1080/10410236.2013.764781

Myrick, J. G., Willoughby, J. F., Noar, S. M., & **Brown, J.** (2013). Reactions of Young Adults to the Death of Apple CEO Steve Jobs: Implications for Cancer Communication. *Communication Research Reports*, *30*(2), 115–126. https://doi.org/10.1080/08824096.2012.762906

Papers in Review

Brown, J., Zhu, M., Moran, M.B., Hoe, C., Frejas, F., Cohen, J.E. "It has candy. You need to press on it.": Young Adults' Perceptions of Flavored Cigarettes in the Philippines. *Tobacco Control.* Status = Revision under review

Technical Reports (Lead Author)

Institute for Global Tobacco Control. Technical Report on Tobacco Marketing at the Point-of-Sale in Buenos Aires, Argentina: Product Display, Advertising and Promotion around Primary and Secondary Schools. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health; August 2016. https://www.globaltobaccocontrol.org/sites/default/files/ARG_tech_report_2016.pdf

Institute for Global Tobacco Control. Technical Report on Tobacco Marketing at the Point-of-Sale in Managua, Nicaragua: Product Display, Advertising and Promotion around Primary and Secondary Schools. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health; August 2016. https://www.globaltobaccocontrol.org/sites/default/files/NICARAGUA_tech_report_2016.pdf

Institute for Global Tobacco Control. Technical Report on Tobacco Marketing at the Point-of-Sale in the French-Speaking Region of Switzerland: Product Display, Advertising and Promotion around Primary and Secondary Schools. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health; August 2016. https://www.globaltobaccocontrol.org/sites/default/files/SWITZERLAND_tech_report_2016.pdf

PRESENTATIONS

Brown, J., Zhu, M., Moran, M., Hoe, C., Cohen, J.E. (2020, March) *Filipino young adult perceptions of menthol and flavor capsule cigarettes.* Poster to be presented at the 2020 Society for Research on Nicotine and Tobacco 25th Annual meeting, New Orleans, LA.

Brown, J., Zhu, M., Moran, M., Hoe, C., Cohen, J.E. (2020, March) *Effects of flavored cigarette packaging on young adult perceptions of relative harm, appeal, and intention to try in the Philippines.* Poster to be presented at the 2020 Society for Research on Nicotine and Tobacco 25th Annual meeting, New Orleans, LA.

Brown, J., Smith, K., Zhu, M., Moran, M., Hoe, C., Cohen, J.E. (2019, February) *Communication of flavored cigarettes in the Philippines: A comparison of pack features across categories of cigarettes distinguished by flavor and flavor capsule.* Oral paper presented at the 2019 Society for Research on Nicotine and Tobacco 24th Annual meeting, San Francisco, CA.

Brown, J., Smith, K., Welding, K., Cohen, J.E. (2019, February) *Misleading descriptors on tobacco packaging in nine low- and middle-income countries.* Poster presented at the 2019 Society for Research on Nicotine and Tobacco 24th Annual meeting, San Francisco, CA.

Brown, J., Cohen, J.E., & Smith, K. (2018, March) *Flavor capsule cigarettes in six countries: Availability by brand, variant, and flavor*. Oral abstract presented at the 17th World Conference on Tobacco or Health, Cape Town, South Africa.

Brown, J., Cohen, J.E., & Smith, K. (2018, March) *Misleading descriptors on cigarette packs in Indonesia, the Philippines, and Vietnam: Before and after implementation of misleading packaging regulations.* E-poster presented at the 17th World Conference on Tobacco or Health, Cape Town, South Africa.

Brown, J., Grant, A., Weiger, C., & Cohen J.E. (2018, March) *Flavor-related descriptors on economy-priced cigarettes packs in five Latin American countries.* Poster presented at the 17th World Conference on Tobacco or Health, Cape Town, South Africa.

Cohen, J.E., Welding, K., Washington, C., **Brown, J.**, Kennedy, R., & Smith, K. (2018, February) *The flavor train: The emergence of flavor capsules and unconventional flavor descriptors.* Poster presented at the 2018 Society for Research on Nicotine and Tobacco 23rd Annual meeting, Baltimore, MD.

Brown, J., Cohen, J.E., Welding, K., Washington, C., & Smith, K. (2017, March) *Misleading cigarette packaging in 14 countries.* Poster presented at the 2017 Society for Research on Nicotine and Tobacco 23rd Annual meeting, Florence, Italy.

Brown, J., Grant, A., Weiger, C., & Cohen, J.E. (2017, March) *Sale of single cigarettes near primary and secondary schools in 10 countries.* Oral paper presented at the 2017 Society for Research on Nicotine and Tobacco 23rd Annual meeting, Florence, Italy.

Brown, J., DeAtley, T., Welding, K., Schwartz, R., Chaiton, M., Kittner, D., & Cohen, J.E. (2016, October) *Retailer and tobacco industry response post-menthol tobacco ban in Alberta and Nova Scotia, Canada*. Poster presented at 144th American Public Health Association Annual Meeting & Exposition, Denver, CO.

Brown, J., Cohen, J.E., Washington, C., & Smith, K. (2015, March) *Compliance of tobacco packs with health warning requirements: A four-country study.* Poster presented at the 16th World Conference on Tobacco or Health, Abu Dhabi, United Arab Emirates.

Brown, J., Cherukupalli, R., Cohen, J.E., Washington, C., Yang, J., & Smith, K. (2015, March) *An analysis of purchase price of legal and illicit cigarettes in low- and middle-income countries*. Poster presented at the 16th World Conference on Tobacco or Health, Abu Dhabi, United Arab Emirates.

Kroart, L., Cohen, J.E., Washington, C., **Brown, J.**, & Smith, K. (2015, March) *Technology terminology and imagery on tobacco packaging across fourteen countries.* Poster presented at the 16th World Conference on Tobacco or Health, Abu Dhabi, United Arab Emirates.

Kroart, L., Cohen, J.E., Washington, C., **Brown, J.**, & Smith, K. (2015, March) Tobacco brand presence and diversification across 14 low- and middle-income countries. Poster presented at the 16th World Conference on Tobacco or Health, Abu Dhabi, United Arab Emirates.

Washington, C., Smith, K., **Brown, J.**, Kroart, L., & Cohen, J.E. (2015, March) *An assessment of cigarette brand variants in the Russian Federation.* Poster presented at the 16th World Conference on Tobacco or Health, Abu Dhabi, United Arab Emirates.

Cohen, J.E., **Brown, J.**, Washington, C., Ferguson, J., & Smith, K. (2015, February) *Compliance with health warning requirements on cigarette packs: A five-country study.* Poster presented at the 2015 Society for Research on Nicotine and Tobacco 21st Annual Meeting, Philadelphia, PA.

Cohen, J.E., **Brown, J.**, Cherukupalli, R., Washington, C., Ferguson, J., & Smith, K. (2015, February) *Are retail prices higher for legal or illicit cigarettes? An analysis in 14 low- and middle-income countries.* Poster presented at the 2015 Society for Research on Nicotine and Tobacco 21st Annual Meeting, Philadelphia, PA.

Smith, K., Washington, C., Kroart, L., Conroy, A., **Brown, J.**, & Cohen, J.E. (2015, February) *The presence of English on cigarette packs in five non-English speaking low- and middle-income countries.* Poster presented at the 2015 Society for Research on Nicotine and Tobacco 21st Annual Meeting, Philadelphia, PA.

Brown, J., Washington, C., Ferguson, J., Vadnais, A., Smith, K., Kroart, L., Cohen, J.E. (2014, November) *Assessment of compliance with tobacco packaging and labeling policies across 14 low- and middle-income countries.* Poster presented at the 142nd American Public Health Association Annual Meeting & Exposition, New Orleans, LA.

Reynales, L.M., Flores, M.G., Ortiz, M., Washington, C., **Brown, J.**, Cohen, J.E., & Smith, K. (2014, March) *Sistema de Vigilancia de Cajetillas de Cigarros, estudio en México (TPackSS).* Poster presented at the 4th Latin American and Caribbean Conference on Tobacco or Health, San José, Costa Rica.

Noar, S.M., Myrick, J.G., Willoughby, J.F., & **Brown, J.** (2012, November) *Public reaction to the death of Steve Jobs: Implications for cancer communication.* Paper presented to the Health Communication Division of the 98th annual convention of the National Communication Association, Orlando, Florida.

Myrick, J.G., Noar, S.M., Willoughby, J.F., & **Brown, J**. (2012, May) *Public reaction to the death of Steve Jobs: Implications for cancer communication.* Poster presented at the 2012 Lineberger Comprehensive Cancer Center Annual Scientific Retreat, Chapel Hill, North Carolina.

Myrick, J.G., Willoughby, J.F., Noar, S.M., & **Brown, J**. (2012, April) *Seeking about Steve: A survey analysis of the impact of Steve Jobs' death on information seeking and interpersonal communication about pancreatic cancer.* Paper presented at the 12th Biennial Kentucky Conference on Health Communication, Lexington, Kentucky.

Noar, S.M., Willoughby, J.F., Myrick, J.G., & **Brown, J**. (2012, April) *Celebrity announcements about cancer and opportunities for cancer communication and prevention: A review and research agenda.* Poster presented at the 12th Biennial Kentucky Conference on Health Communication, Lexington, Kentucky.

Myers, A., Willoughby, J.F., Myrick J.G., **Brown, J.**, McGill, T., Mehen, L., Cates, J., & Brown, J.D. (2011, April) *Upstream: Promoting interactive, interdisciplinary health communication scholarship via internet blog.* Poster presented at the 1st biennial D.C. Health Communication Conference; April 2011; Fairfax, VA.

PROFESSIONAL & RESEARCH EXPERIENCE

Campaign for Tobacco-Free Kids Washington, DC
Consultant 2018 – Present, 2012 – 2013

- Transforming delivery of high-impact tobacco control interventions by assessing progress of $10M+ of international, multi-year grants and documenting areas for capacity building

Johns Hopkins Bloomberg School of Public Health
Institute for Global Tobacco Control Baltimore, MD
Graduate Student Research Assistant 2015 - Present

Research project: Tobacco Pack Surveillance System (PIs: Dr. Joanna Cohen & Dr. Katherine Clegg Smith)

- Analyze quantitative and qualitative data and synthesize results from study on tobacco product packaging and labeling in 14 low- and middle-income countries
- Fostered research capacity of international civil society organizations by authoring and leading development of a guide on how to monitor compliance with tobacco control regulations and strengthen local policy with three partner organizations (in press)

Research project: Big Tobacco, Tiny Targets (PI: Dr. Joanna Cohen)

- Designed an observational study spanning 11 countries with four colleagues, developing a data collection protocol and instruments, and training 40+ data collectors in four countries (Argentina, South Africa, Nicaragua, Switzerland)

Senior Research Program Coordinator 2013 - 2015

Research project: Tobacco Pack Surveillance System (PIs: Dr. Joanna Cohen & Dr. Katherine Clegg Smith)

- Collaboratively designed an observational study on tobacco packaging in 14 low- and middle-income countries, with a specific influence on the sampling strategy, data collection protocol, in-field training materials, and data management
- Fostered relationships with partners and ensured high fidelity to protocols by managing data collection in eight countries (Vietnam, Indonesia, the Philippines, Ukraine, Russia, Turkey, Pakistan, India), negotiating contracts with research firms, training data collectors, and overseeing field work

Johns Hopkins Bloomberg School of Public Health
Department of Health, Behavior, and Society Baltimore, MD
Graduate Student Research Assistant (PI: Dr. Meghan Moran) 2016 - 2018

- Collaborated with Principal Investigator to design and manage experimental survey examining consumer perceptions of tobacco company advertising tactics resulting in a successfully launched online survey with over 3,000 participants

Orange County Health Department Hillsborough, NC
Youth Tobacco Prevention Program Associate 2011 - 2012

- Advised youth advocacy and peer education groups at five public high schools and cultivated engagement among youth advocates
- Contributed to the passage of a policy on smoke-free public places in Orange County through the development of communication tools and policy advocacy strategies to promote tobacco-free places

Kenan Foundation Asia Bangkok, Thailand
Quality of Medicines Program Intern Summer 2011

- Produced local knowledge base for USAID-funded project on counterfeit medicines by developing an interview guide and conducting key informant interviews with pharmaceutical, government, and non-profit leaders

University of North Carolina Center for Health Promotion and Disease Prevention Chapel Hill, NC
Research Assistant (PIs: Dr. Kurt Ribisl & Dr. Rebecca Williams) 2010 - 2011

- Coded data for study examining internet cigarette vendor websites
- Ensured adherence to research protocols by administering study instructions to youth participants in research on youth access to tobacco websites

Santa Barbara Public Health Department Santa Barbara, CA
Tobacco Prevention Settlement Program Intern 2008 - 2010

- Co-founded and advised a tobacco control youth coalition
- Developed health communication materials and conducted data collection and analysis of local public opinion polls to support local tobacco control initiatives

TEACHING EXPERIENCE

Johns Hopkins Bloomberg School of Public Health
Department of Health, Behavior and Society Baltimore, MD
Teaching Assistant 2016 – 2017

Course title: Policy Interventions for Health Behavior Change (Dr. Joanna Cohen)

- As lead TA, coordinated work among two other TAs, facilitated group discussions, answered student questions, maintained course website and graded assignments for graduate course of 20 students

Course title: Introduction to Persuasive Communications: Theories and Practice (Dr. Meghan Moran)

- Answered student questions, met with students, and graded assignments for graduate course of 60 students

SERVICE

- Ad hoc reviewer, *Substance Use and Misuse* (2020 – Present)
- Ad hoc reviewer, *Tobacco Induced Diseases* (2018 – Present)
- Ad hoc reviewer, *Nicotine & Tobacco Research* (2018 – Present)
- Legislative Ambassador, American Cancer Society Cancer Action Network, Massachusetts (2018 – Present)
- Expert Consultant, World Health Organization, Monitoring Tobacco Control Compliance Pilot Project (2018 – Present)
- Ad hoc reviewer, *Tobacco Control* (2014 – Present)
- Abstract Reviewer, American Public Health Association Annual Meeting & Exposition (2017, 2019)

PROFESSIONAL MEMBERSHIPS

- Society for Research on Nicotine and Tobacco
- American Public Health Association